

Profile (1D) Analysis

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Profile (1D) Analysis

Lane analysis is separated into 2D analysis and Profile (1D) analysis. For a discussion of 2D analysis see the chapter *Using Lanes*, in this manual.

When a lane is selected, the **Profile** button in the template bar and the **Profile Lanes** selection in the **Analysis** menu becomes active. When either of these selections are made, the **Profile Frame** window (Figure 8-1) is displayed. Within the **Profile Frame** window, a separate **Profile** window is generated for each existing lane template that is displayed on the image.

The menu bar and the template bar are modified to reflect the functionality of the **Profile Frame** window.

Interface Between 2D Image and Profile (1D) Image

The menu bar and the template bar will change according to whether the 2D image or the **Profile Frame** window is selected (highlighted). To highlight the 2D image, use the mouse to click anywhere on the image. To highlight the **Profile Frame** window, use the mouse to click anywhere within the confines of the **Profile Frame** window.

When the **Profile Frame** window is highlighted, only lane templates will be displayed. Grid templates and groups of region templates will not be displayed on the image. Within the lane templates, any 2D regions that had been defined will not be displayed. Only regions defined through the profile 1D software will be displayed.

Likewise, when the 2D image is highlighted, the profile 1D regions will not be displayed on the image. This is because all the 2D features will work only on 2D regions and profile (1D) features will work only on 1D regions.

The **Display Options** window will always be hidden when the **Profile Frame** window is highlighted. When the 2D image is highlighted, the **Display Options** window will be displayed over the **Profile Frame** window.

The Profile Frame Window

The **Profile Frame** window (Figure 8–1) occupies the empty space to the right of the image when the image is displayed at 100% magnification. The default window size is 60% or the width of the image display and just under 100% of the height of the image display area.

Within the **Profile Frame** window a **Profile** window is displayed for each existing lane template.

The **Profile Frame** window can be identified by the word “Profiles” in its title bar. It also has a standard (Windows) control menu. However, you cannot minimize the **Profile Frame** window.

You can resize the window and move it anywhere within the area of the image.

You can close the **Profile Frame** window by:

- ☐ Double clicking on the control menu button.
- ☐ Or by selecting **Hide Profile Window** from the **View** menu.

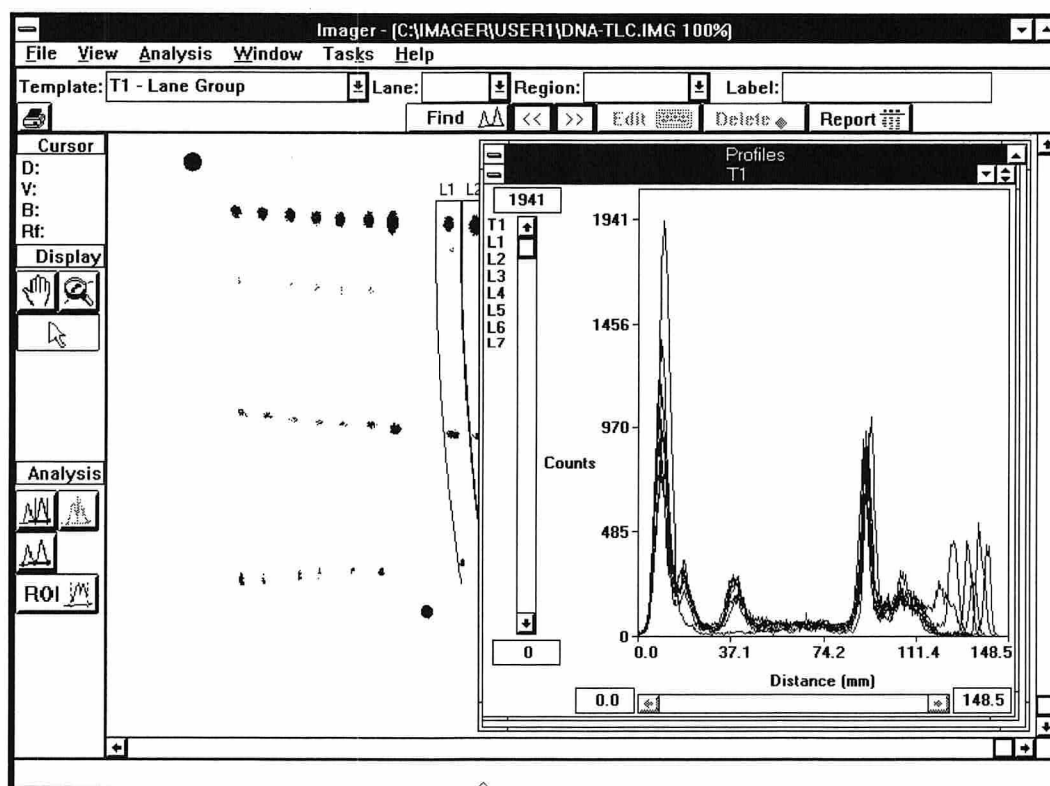


Figure 8–1. Profile Frame Window contains Profile Window(s).

Profile Window

A unique **Profile** window will be displayed for each existing lane template within the **Profile Frame** window (Figure 8-1). The title bar of each **Profile** window contains the template number (T1, T2, etc.) of the lane template that you are profiling in a given **Profile** window.

Only one **Profile** window within the **Profile Frame** window can be highlighted; this is always the window displaying the template that is selected in the template bar. When the **Profile** window is first opened, the selected template is maximized by default.

Each **Profile** window will have a standard (Windows) maximize/restore button.

You can resize or move the **Profile** window to any position within the **Profile Frame** window.

You cannot delete a **Profile** window from the **Profile Frame** window. However, when you delete a lane template from the 2D image, the corresponding **Profile** window in the **Profile Frame** window will be deleted.

Lane Selection

The lane template tag and the lane tags are displayed along the left edge of the **Profile** window. The cursor changes to the pointing hand when you place the cursor over these tags. You can use the mouse to click on these tags to change the display in the **Profile Plot** window.

When you select a lane template tag:

- All of the tags will be the selected lane point color.
- All of the lanes will be profiled on top of one another in the profile.
- No profile bitmap will be displayed.

When you select a single lane of the lane template:

- The selected lane tag will be the selected lane point color.
- All other tags will be the normal lane point color.
- The selected lane will be profiled.
- The profile bitmap of the selected lane will be displayed (unless you have hidden the lane profile).

When profile display mode is set to “overlaid”, all of the non-selected tags and profiles of the lanes (designated to be overlaid) are displayed in the appropriate color.

Profile Display

Profiles will be displayed in a rectangular frame with labeled axes including outward tick marks. There will be some space between the frame and the profile plot itself for tick marks, axis labels, and labels of annotations that extend slightly outside the axes of the plot.

A cursor line (in inverse video) perpendicular to the distance axis will move over the plot when you move the mouse over the plot. Information is reported continuously in the top of the toolbox as you move the cursor over the profile plot. The cursor line will be displayed over the bitmap of the lane displayed above the plot.

Profile Bitmap

When a single lane is selected, the bitmap of the selected lane is displayed above the profile plot. The bitmap display will always be a rectangle. If the lane in the main image is curved, it will be straightened in the **Profile** window. The magnification of the profile bitmap corresponds to the magnification of the profile display.

As you move the mouse over the profile, a cursor line (inverse video) perpendicular to the distance axis will move over the lane profile bitmap.

Any regions you create on the profile plot will be displayed on the bitmap.

Hide/Show Profile Bitmap

You can hide the bitmap by:

- ☐ Selecting **Hide Lane Image** from the **View** menu.

You can restore the lane image by:

- ☐ Selecting **Show Lane Image** from the **View** menu.

Activity

You can control the range of activity by using the slide control or editing the values in the entry boxes, located on the left edge of the **Profile** window (Figure 8-1). When you edit the value in an entry box, the new value is accepted by tabbing to the next field, clicking the left mouse button, or by pressing **<Enter>**. The values in each entry box will be in the units used to label the axes. You can change these units at the **Profile Axes** window.

To display the **Profile Axes** window:

- ☐ Select **Profile Axes** in the **View** menu.
- ☐ Or double click the left mouse button in the area of the profile axes.

The labeling and assignment of tick mark values of the Y axis of the profile plot will be changed to reflect the new unit selection. (See the section *Profile Axes*, this chapter.)

The slide control on the Y (counts) axis controls the maximum value of the display range. You can edit this value in the entry box located at the top of the slide control. You can also edit the minimum value of the display range in the entry box located at the bottom of the slide control. The default value for the minimum will be the minimum in the lane.

Distance

You can control the range of distance by using the slide control or editing the values in the entry boxes located along the bottom edge of the **Profile** window (Figure 8-1). When you edit a value in an entry box, the new value is accepted by tabbing to the next field, clicking the left mouse button, or by pressing **<Enter>**. The values in each entry box will be in the units used to label the axes. You can change these units at the **Profile Axes** window.

To display the **Profile Axes** window:

- ☐ Select **Profile Axes** in the **View** menu.
- ☐ Or double click the left mouse button in the area of the profile axes.

The labeling and assignment of tick mark values of the X axis of the profile plot will be changed to reflect the new selection. (See the section *Profile Axes*, this chapter.)

The slide control on the X axis will be active only if the profile is magnified larger than the display. You can change the magnification by either using the magnifying glass in the toolbox, or by editing the values in the entry boxes. The values in the edit boxes will change when you magnify the image.

The units on the X distance can vary from lane template to lane template. However, the range will be the same for all lanes in a template.

The Toolbox

The toolbox is always displayed on the side. It is divided into areas for cursor readout, display, and analysis. You can hide the toolbox from view by selecting **Hide Toolbox** from the **View** menu.

Cursor Readout

The area for cursor readout is at the top of the toolbox. It gives you real-time information as you move the cursor about the profile display:

- **D:** cursor distance in millimeters from the origin line of the template.
- **C:** the gross counts in the profile at the current cursor position.
- **B:** the counts in the background profile at the cursor position.
- **Rf:** the Rf (expressed as a %) at the cursor position for the selected lane.

The Display Area

The display area is located in the middle of the toolbox. It contains the scrolling tool, the magnifying tool, and the pointer tool.

Single click on the tools to use them once. Double click to use them repeatedly.

Scrolling Tool

If the range of the distance axis of the profile plot is less than the distance range of the lane template, you can use the scrolling tool to move the profile plot along the distance axis of the plot.

To move a profile plot:

- ☐ Click on  from the toolbox
- ☐ Click on the profile plot.
- ☐ Drag with the left mouse button to the new position.

The minimum and maximum values at the bottom of the profile display and in the **Profile Axes** window will change when the profile is scrolled in the window.

Magnifying Tool

The distance axis can be magnified and demagnified with the magnifying tool. The tool can be used in the following ways:

1. Magnify the distance scale times two.
2. Specify a region of the profile plot which can occupy the entire distance axis of the plot.

Magnify Distance Scale

To magnify the distance scale times two:

- ☐ Click on  from the toolbox.
- ☐ Click on the profile plot with the left mouse button.

The distance scale is magnified times two.

The point on the profile plot at which the mouse button is clicked will become the center position of the plot.

The minimum and maximum distance values at the bottom of the profile display and in the **Profile Axes** window will change when the profile is magnified or demagnified.

Specify Region

To specify a region of the profile plot which can occupy the entire distance axis of the plot:

- ☐ Click  from the toolbox.
- ☐ Drag along the distance axis on the profile plot with the left mouse button to specify a region.

The minimum and maximum distance values at the bottom of the profile display and in the **Profile Axes** window will change when the profile is magnified or demagnified.

Pointer Tool

You can use the pointer tool to select and edit profile regions and the background profile on the profile plot. Use the pointer tool to deselect any other tool.

The Analysis Area

The analysis area is located at the bottom of the toolbox. It contains the peak integration tool, the peak splitting tool, the background tool, and the region of interest tool.

Single click on the tools to use them once. Double click to use them repeatedly.

Peak Integration Tool

You can use the peak integration tool to manually create profile regions in the selected lane. If the entire template is selected (all lanes), profile regions will be created in all lanes simultaneously.

To create a region(s):

- ☐ Click on  from the toolbox.
- ☐ Select a point along the distance axis and press the left mouse button.
- ☐ Drag the left mouse button along the distance axis.
- ☐ Release the left mouse button.

The region(s) is marked on the profile plot and on the template.

Profile regions created with the peak integration tool can overlap other regions.

Peak Splitting Tool

You can split a profile region in two with the peak splitting tool.

To split a peak:

- ☐ Click on  from the toolbox.
- ☐ Move the cursor to the position in a profile region where the split should be made.
- ☐ Click the left mouse button.

The profile region is split in two.

Baseline Tool

Use the baseline tool to create background regions in the selected lane. If the entire template is selected (all lanes), background regions will be created in all lanes simultaneously.

To create a background:

- ☐ Click on  from the toolbox.
- ☐ Move the cursor over the profile plot.

With the cursor over the profile plot, you can either:

- ☐ Click at a point on the distance axis.
- ☐ Or, drag along the distance axis with the left mouse button.

A background point will be created with its magnitude equal to the average activity in the background region (or the activity at a point); its position will be at the center of the background region. Background points will be connected with line segments to create the background profile.

After the background point is created, the magnitude or position of the point can be edited. (See *Editing Profile Regions and Background*, this chapter.)

Background points can also be created automatically. See the section *Analysis Menu Functions (Find Peaks)*, this chapter.

Region of Interest (ROI) Tool

You can use the region of interest tool to create a ROI in the lane template.

To create a region of interest:

- ☐ Click on  from the toolbox.
- ☐ Drag the ROI tool over the profile plot to create the region of interest.

Peaks (profile regions) and the background profile will be found automatically within the ROI. (See the section *Analysis Menu Functions (Find Peaks)*, this chapter.)

Template Bar

Functions basically the same as the template bar in the regular 2D image. However only the lane templates are listed in the template drop down list and the action buttons perform the profile (1D) equivalent of the main 2D image function.

Also, an icon appears to the far left in the template bar. This is the printer icon . Selecting this icon displays the **Print Profile Display** window, and is the same as selecting **Print** from the **File** menu.

For more information, see the section *Print Profile Display* this chapter.

Menus and Selections

This section describes the menus that can be selected when the **Profile Frame** window is displayed. This window is displayed when you are performing Profile (1D) Analysis. More than one window can be displayed, depending on how many profiles have been created. Pictures of the menus follow with a brief descriptions of each selection.

When you place the mouse pointer on a menu item and press the left mouse button, a menu drops down. The name of each selection is displayed in each pull down menu.

A system flowchart (Figure 8-2) is included to illustrate the organization of the main functions.

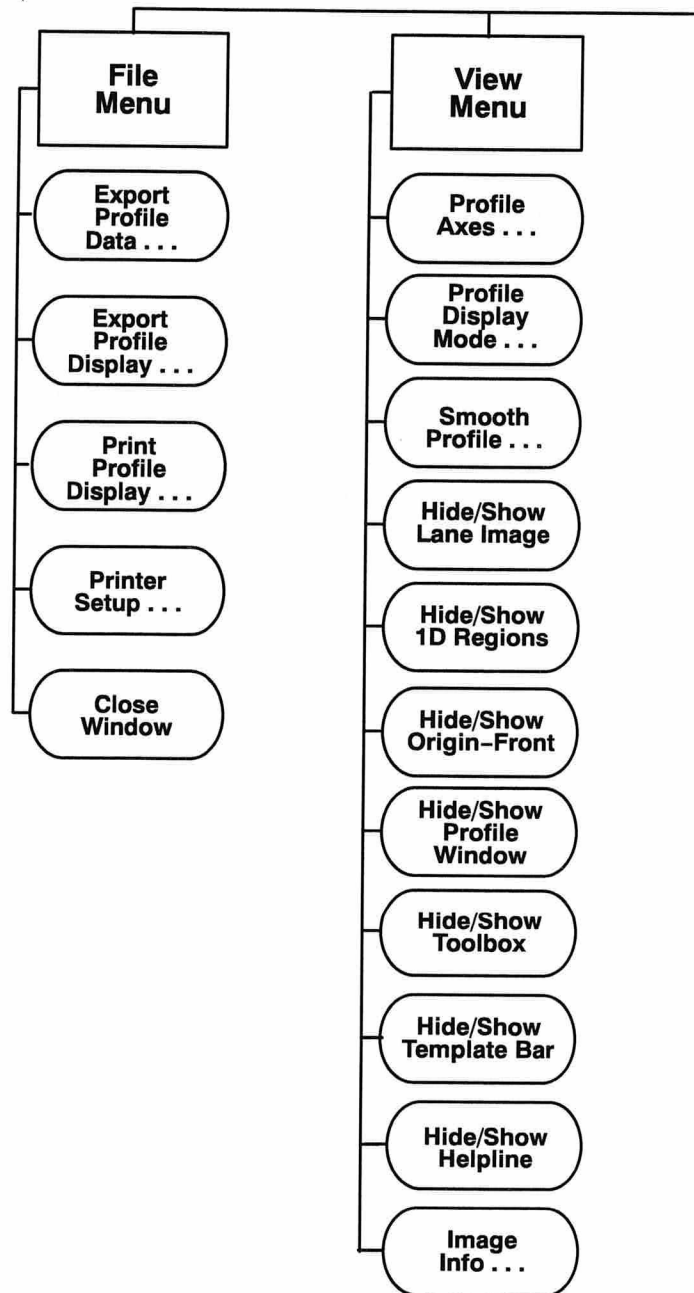
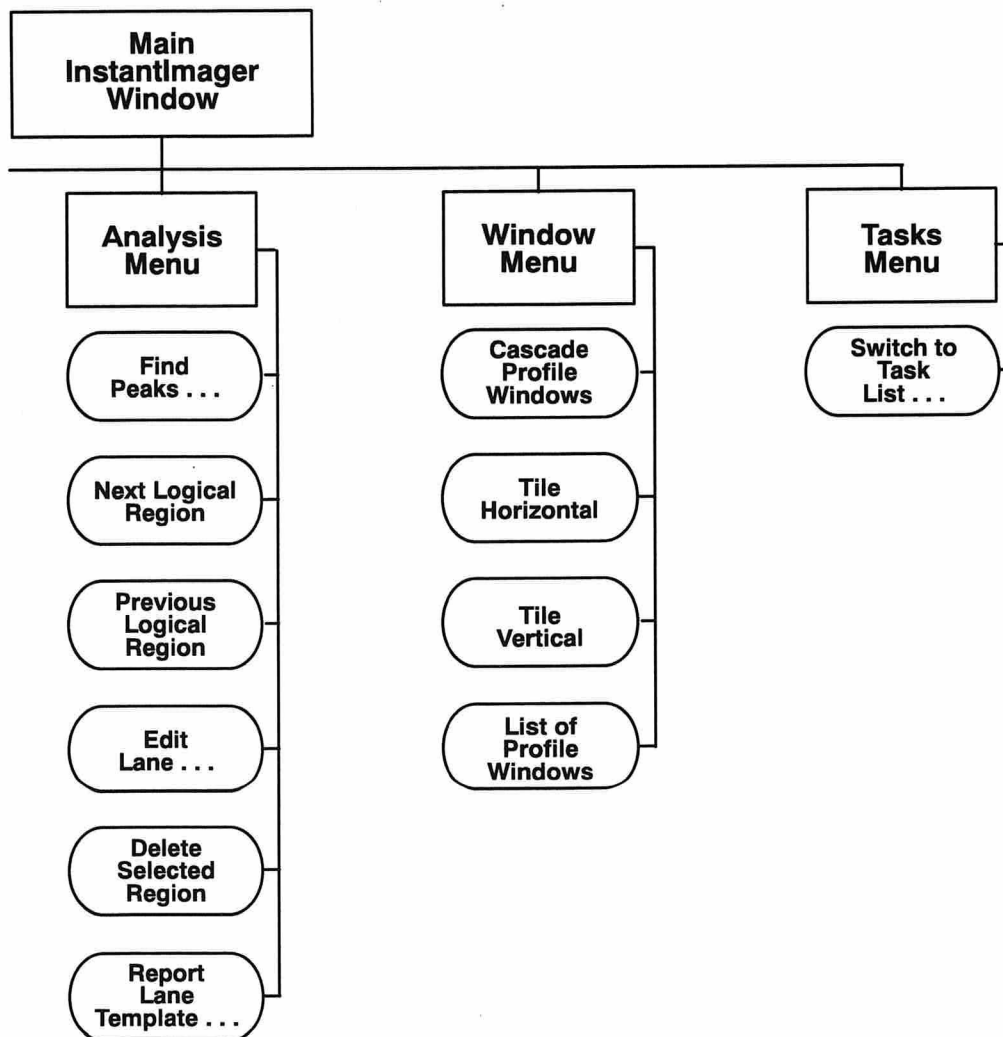


Figure 8-2. System Flowchart (Profile 1D Analysis).



The leader dots (. .) display appropriate additional windows.

Figure 8-2. System Flowchart (Profile 1D Analysis).

File Menu

The **File** menu (Figure 8-3) is displayed by selecting **File** in the menu bar.

Each selection at the **File** menu is discussed below:

Export Profile Data:	Displays the Export Profile Data window. This window enables you to export the actual profile values for the lanes of the currently selected template for viewing in other applications.
Export Profile Display	Displays the Export Profile Display window. This window enables you to export the actual profile display for the current selection of lanes for viewing in other application.
Print	Displays the Print Profile Display window. This window enables you to print the actual profile display for the current selection of lanes.

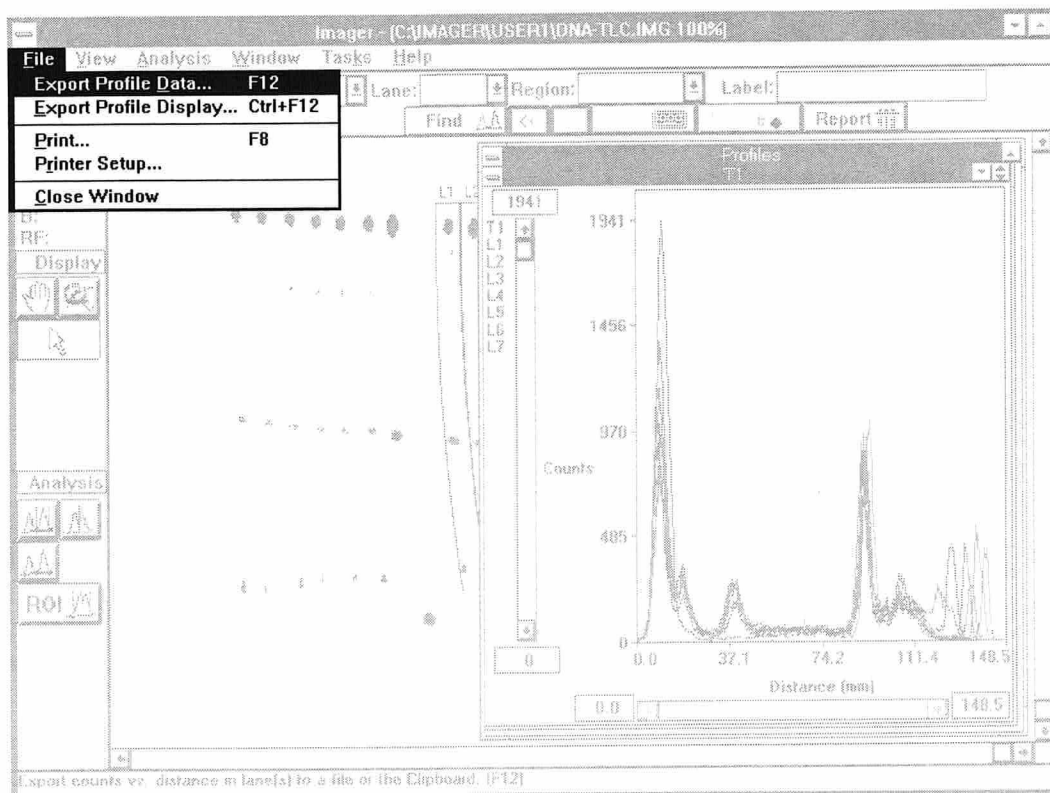


Figure 8-3. File Menu (1D Profile).

Print Setup

Displays the **Print Setup** window. This window enables you to specify the type of printer your system uses. Once the printer is specified, you can configure the printer to run with your computer.

Close Window:

Closes the **Profile Window** and returns the focus to the 2D image.

View Menu

The **View** menu (Figure 8-4) is displayed by selecting **View** in the menu bar. It contains commands that enable you to adjust visual aspects of the profile display. It also contains commands that enable you to hide or display specific aspects of the profile display and the **InstantImager** window.

Each selection at the **View** menu is discussed below.

Profile Axes:	Displays the Profile Axes window. This window enables you to manually adjust the display ranges and the units of the profile display's axis.
Peak Tags:	Displays the Peak Tags window. This window enables you to manually adjust the units, orientation, and fonts of the tags of the regions in the profile display.
Profile Display Mode – Selection Only:	Displays only the currently selected lane in the profile plot.
Profile Display Mode – Overlaid Plots:	Displays the Overlaid Plots window. Enables you to select any combination of the lanes of the selected template that should always appear on the profile plot.
Smooth Profile:	Displays the Smooth Profile window. From this window, you can choose one of four levels of smoothing for the profile display: 1) None, 2) Light, 3) Medium, 4) Heavy.
Hide/Show Lane Image:	Hides or displays the bitmap of the image of the currently selected lane above the profile display.
Hide/Show 1D Regions:	Hides or displays the regions displayed on the profile plot.
Hide/Show Origin-Font:	Hides or displays the marking of the origin and front of the profile plot.

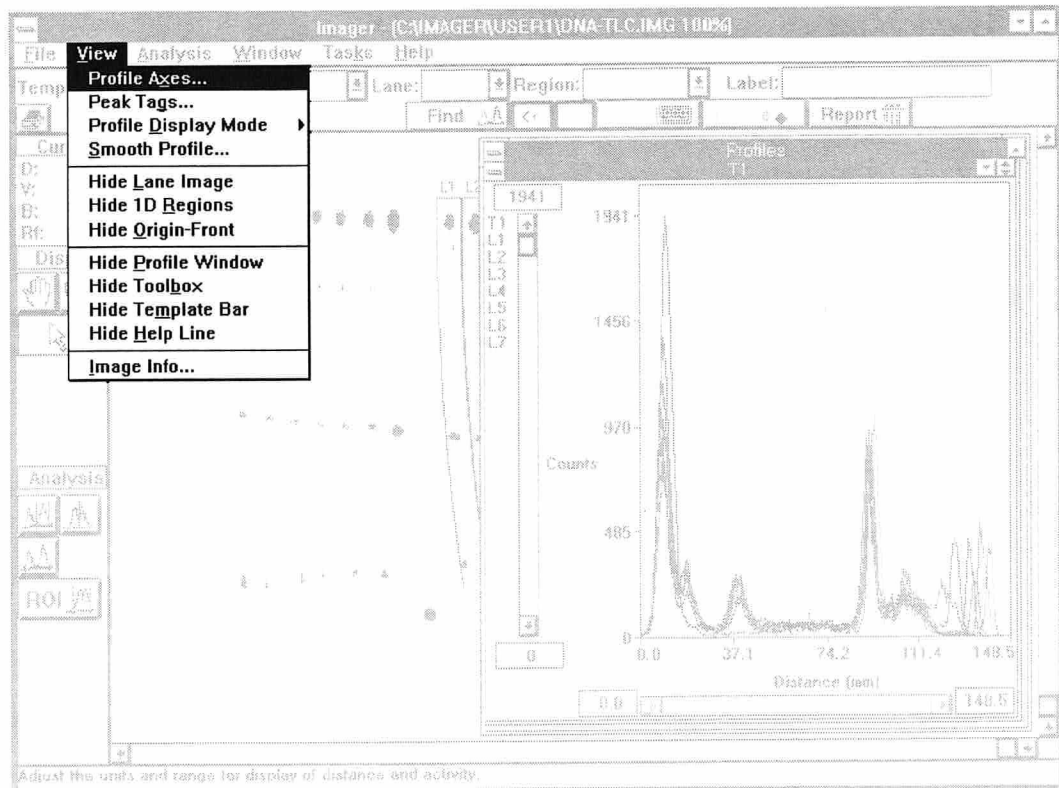


Figure 8-4. View Menu (1D Profile).

Hide/Show Profile Window:

Hides or displays the **Profile Frame** window.

Hide/Show Toolbox:

Hides or displays the tool box located on the side of the **InstantImager** window.

Hide/Show Template Bar:

Hides or displays the template bar. The template bar contains a row of buttons. Each button represents a command. The template bar also lists any analysis templates and their lanes or regions.

Hide/Show Help Line:

Hides or displays the helpline at the bottom of the screen. The helpline displays information about areas of the screen and functions you are performing.

Image Info:

Displays the **Image Information** window. This window displays information about the image that is currently displayed.

Analysis Menu

The **Analysis** menu (Figure 8-5) is displayed by selecting **Analysis** in the menu bar. It contains commands that enable you to analyze specific aspects of the profile display such as peaks and backgrounds in a defined region of interest.

Each selection at the **Analysis** menu is discussed below.

Find Peaks:	Displays the Find Peaks & Bkgd window. This window enables you to find peaks and backgrounds in the defined region of interest (ROI) on the plot.
Next:	Changes the focus to the next logical region.
Previous:	Changes the focus to the logical preceding region.
Edit:	Displays the Edit Lane window. This window enables you to edit the properties of an individual lane and the set of regions in a lane.
Delete:	Deletes the currently selected region.
Report:	Generates a report of the lane templates. If more than one lane template exists, the Report window is displayed. Otherwise the Lane Group Report Options (Profile Regions) window is displayed.

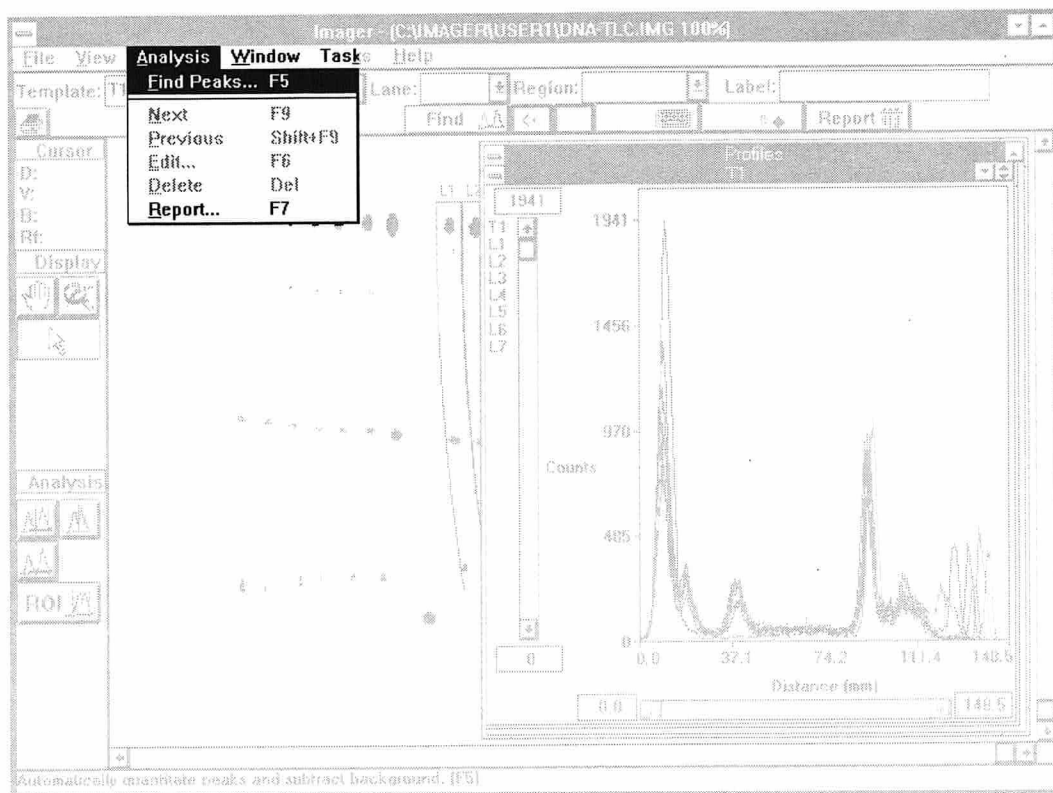


Figure 8-5. Analysis Menu (1D Profile).

Window Menu

The **Window** menu (Figure 8–6) is displayed by selecting **Window** in the menu bar. It contains commands that enable you to arrange or tile the **Profile** windows.

Each selection at the **Window** menu is discussed below.

Cascade: Arranges all the **Profile** windows in a cascade pattern.

Tile Horizontal: Tiles all **Profile** windows horizontally.

Tile Vertical: Tiles all **Profile** windows vertically.

List of Profile Windows: Lists all of the **Profile** windows by their template tag (T1, T2, etc.) and template comment.

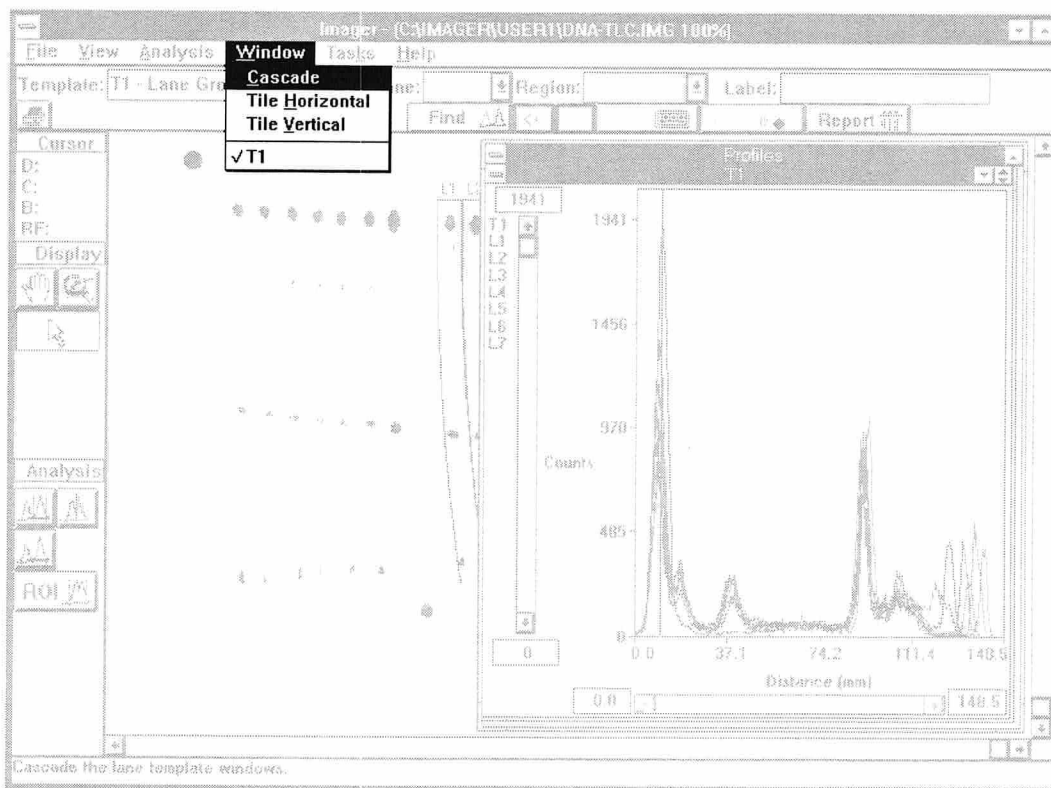


Figure 8–6. Window Menu (1D Profile).

Tasks Menu

The **Tasks** menu (Figure 8-7) is displayed by selecting **Tasks** in the menu bar. The **Tasks** menu enables you to access the Task List. The Task List enables you to switch between running applications. Other open instances of the InstantImager will be listed. See the Microsoft Windows User's Guide for more information about the Task List.

Each selection at the **Tasks** menu is discussed below.

Switch To:

Displays the Task List. The Task List enables you to switch between running applications; whether they are running in windows or are minimized.

 *Note:* You can also switch between tasks by holding down the **<Alt>** key and pressing the **<Tab>** key until the desired application is displayed.

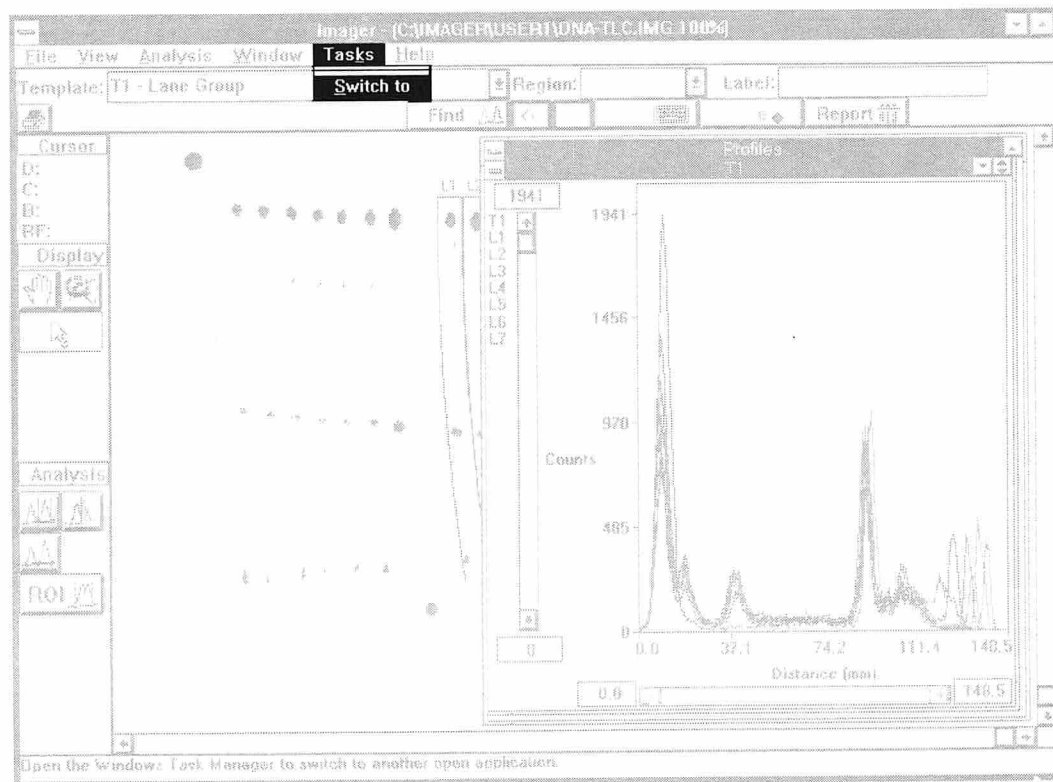


Figure 8-7. Tasks Menu (1D Profile).

File Menu Functions

This section explains:

- How to export profile data.
- How to export the profile display.
- How to print the profile display.

This section discusses the functions available from the **File** menu, shown in Figure 8-3. This menu is displayed by selecting **File** from the menu bar of the **InstantImager** window. For information on the Printer Setup selection, see the section *Menus and Selections* this chapter.

Export Profile Data

The **Export Profile Data** window is displayed in Figure 8-8. This window can be displayed by selecting **Export Profile Data** from the **File** menu. This window enables you to export the actual profile values for the lanes of the currently selected template to other applications.

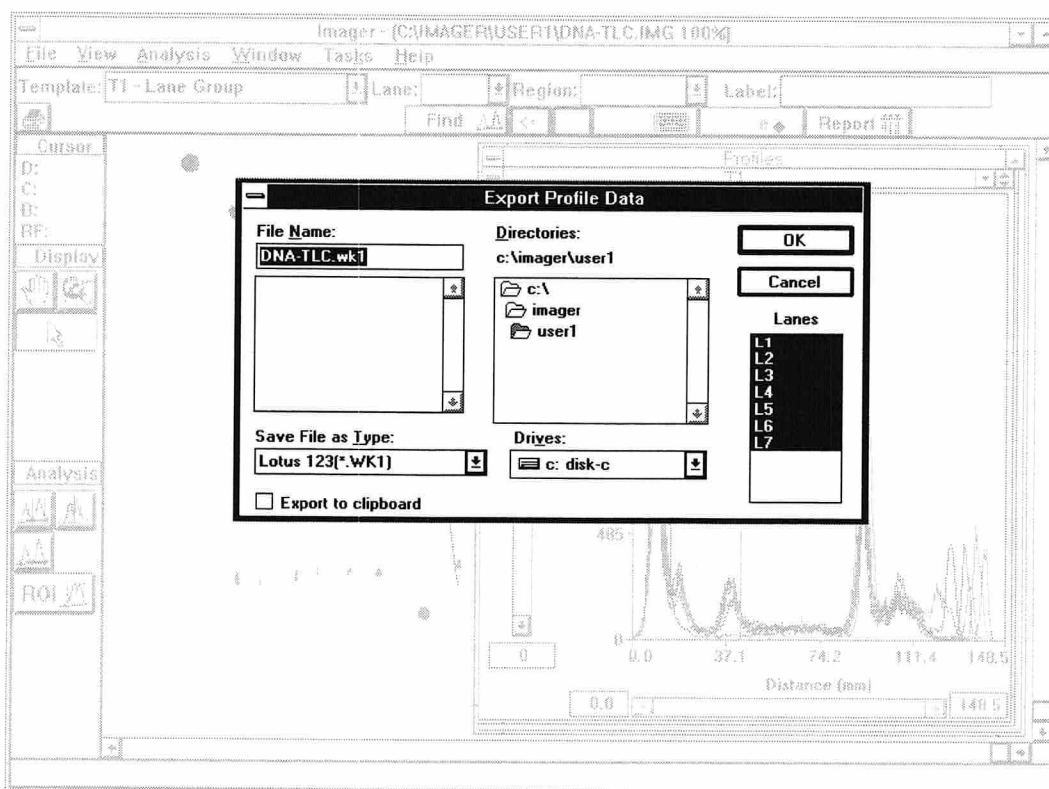


Figure 8-8. Export Profile Data Window.

The selections at the **Export Profile Data** window are discussed below.

SELECTION

DESCRIPTION OF USE

File Name:

Enter the name of the file to which the profile data will be exported. The filename suffix appropriate for the type of file format selected will be added automatically. Filenames of the selected type on the current directory are listed below the entry box. Clicking on a filename will automatically enter it into the box.

Save File as Type:

Displays the selected file format (filename suffix in parenthesis). Select the drop-down arrow to see the list of available file formats. Select one of these formats as the file type for export.

Directories:

The current directory is displayed above the box and is highlighted in the box. The current path in the directory tree of the default disk drive is shown in the box. To select the directory where you want to save the exported profile data, double click on directory names to move up or down in the directory tree.

SELECTION

DESCRIPTION OF USE

Drives:

Displays the default disk drive. Select the drop-down arrow to see the list of available disk drives. Select a drive from the list.

Export to Clipboard:

Select this check box to export the profile data to the Windows Clipboard rather than to a file.

Lanes:

Select the lanes to be exported by highlighting the lane numbers in the box. Click on a single lane number with the left mouse button or drag the mouse over a range of numbers to select the range. You can also select a range by clicking on a lane number, and then clicking on the last number in the range while holding down the **<Shift>** key. Select multiple lanes by clicking on them while holding down the **<Ctrl>** key.

OK

Exports the profile data.

CANCEL

Terminates the export process.

Export Profile Display

The **Export Profile Display** window is displayed in Figure 8–9. This window can be displayed by selecting **Export Profile Display** from the **File** menu. This window enables you to export the actual profile display for the current selection of lanes to other applications.

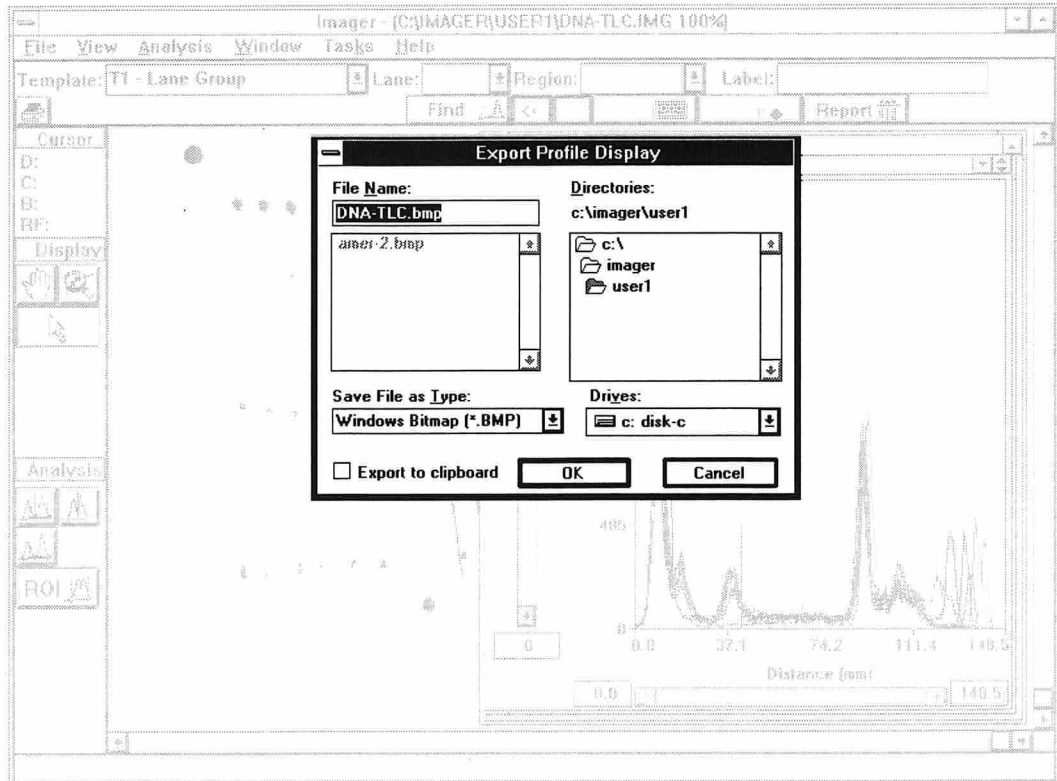


Figure 8–9. Export Profile Display Window.

The selections at the **Export Profile Display** window are discussed below.

<u>SELECTION</u>	<u>DESCRIPTION OF USE</u>
File Name:	Enter the name of the file to which the image will be exported. The filename suffix appropriate for the type of file format selected will be added automatically. Filenames of the selected type on the current directory are listed below the entry box. Clicking on a filename will automatically enter it into the box.
Save File as Type:	Displays the selected file format (filename suffix in parenthesis). Select the drop-down arrow to see the list of available file formats. Select one of these formats as the file type for export.
Directories:	The current directory is displayed above the box and is highlighted in the box. The current path in the directory tree of the default disk drive is shown in the box. To select the directory where you want to save the exported profile display, double click on directory names to move up or down in the directory tree.
Drives:	Displays the default disk drive. Select the drop-down arrow to see the list of available disk drives. Select a drive from the list.
Export to Clipboard:	Select this check box to export the profile display to the Windows Clipboard rather than to a file.
OK	Exports the profile display.
CANCEL	Terminates the export process.

Print Profile Display

The **Print Profile Display** window is displayed in Figure 8–10. This window is displayed by selecting **Print** from the **File** menu. This window enables you to print the actual profile display for the current selection of lanes. The printer that is currently selected is listed at the top of the window.

 **Note:** This command is also available from the template bar

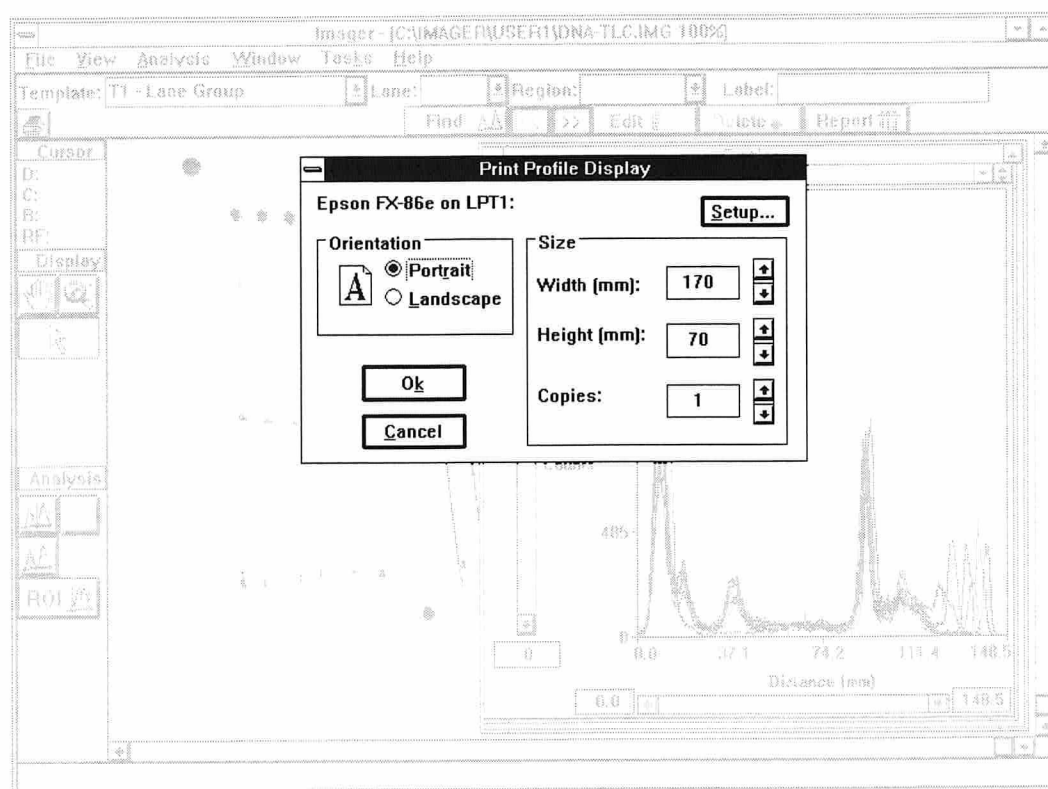


Figure 8–10. Print Profile Display Window.

The selections at the **Print Profile Display** window are described below:

SELECTION

DESCRIPTION OF USE

Orientation: Portrait

Prints the profile with the top at the short edge of the form.

Orientation: Landscape

Prints the profile with the top at the long edge of the form.

SELECTION**DESCRIPTION OF USE****Size: Width [mm]**

Specify the width that the profile display will occupy on paper. The width of the profile is measured in millimeters. Select the up or down arrows to increase or decrease the width or enter a value into the entry box.

Size: Height [mm]

Specify the height that the profile display will occupy on paper. The height of the profile is measured in millimeters. Select the up or down arrows to increase or decrease the height or enter a value into the entry box.

Size: Copies

Specify the number of copies of the printout you want generated. Select the up or down arrows to increase or decrease the number of copies or enter a value into the entry box.

SETUP

Displays the **Printer Setup** window. This window enables you to specify the type of printer your system uses. Once the printer is specified, you can configure the printer to run with your computer.

OK

Prints the profile display.

CANCEL

Terminates the print process.

When you select **OK**, the actual profile display is printed. Along with the profile, the tick marks, tick labels, and axis labels are also printed.

The headings to the profile display are as follows:

1. **File:** The filename of the image.
2. **Acquired:** The date the image was acquired.
3. **Time:** The total elapsed time of the acquisition.
4. **Serial #:** The serial number of the instrument's detector.
5. **Template Tag:** The tag of the template being reported.
6. **Lane(s):** The number of lanes profiled.
7. **Spacing:** Lane spacing in millimeters.
8. **Width:** Lane width in mm.
9. **Resolution:** The resolution of the image (0.5mm/pixel).

View Menu Functions

This section explains:

- How to scale the profile plot (Profile Axes).
- How to select the type, orientation, and fonts of the tags that appear above the peaks of the profile display (Peak Tags).
- How to set the profile display mode.
- How to smooth the profile display.

This section discusses the functions available from the **View** menu, shown in Figure 8–4. This menu is displayed by selecting **View** from the menu bar of the **InstantImager** window.

For a description of the Hide/Show selections and the Image Information selection, see the section *Menus and Selections*, this chapter.

Profile Axes

The units and ranges plotted on the activity axis (counts/CPM) and distance axis (mm/Rf) of the profile display can be controlled at the **Profile Axes** window (Figure 8–11). You can display this window by: 1) selecting **Profile Axes** from the **View** menu, or by 2) double clicking on the activity or distance axis label areas of the profile display.

The activity and distance ranges can also be adjusted with the controls on the profile display. The distance axis can also be adjusted with the magnifying and scrolling tools in the toolbox.

More than one lane can be displayed simultaneously at the **Profile** window. You can select the lanes you want displayed simultaneously from the **Overlaid Plots** window (**Profile Display Mode/View** menu). If the activity display range is changed, either with the controls in the **Profile Display** window or at the **Profile Axes** window, the new display range will be applied to all the lanes that are displayed simultaneously.

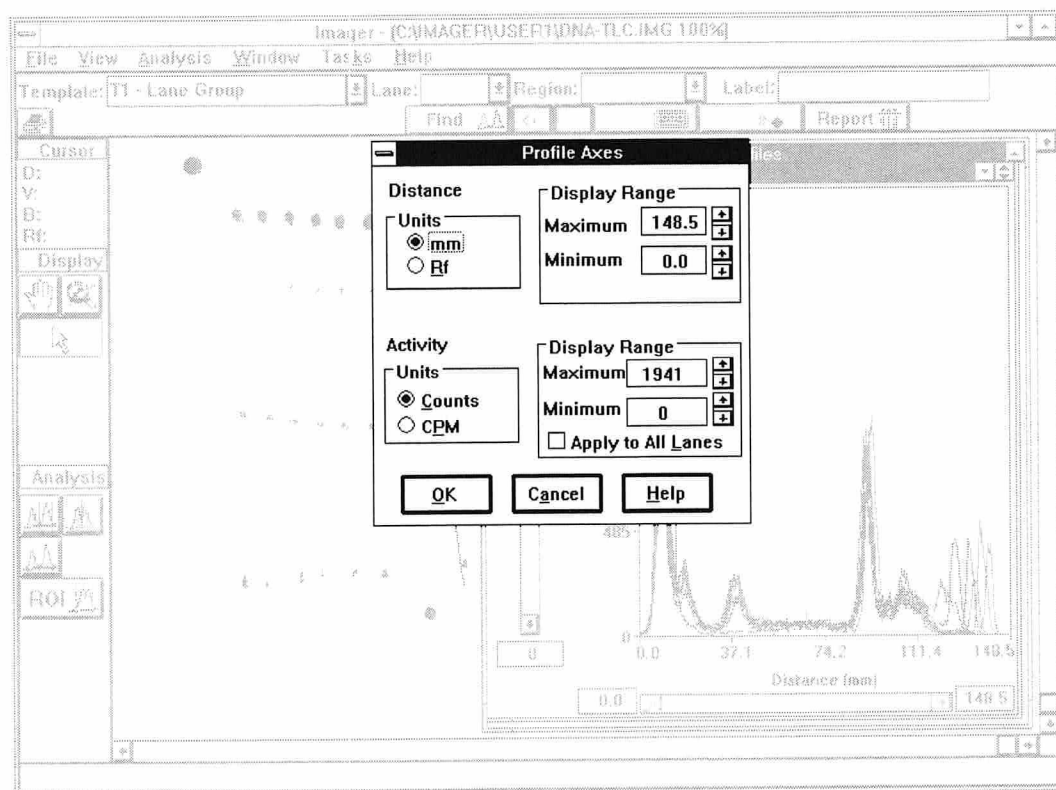


Figure 8–11. Profile Axes Window.

Distance Units

You can choose between millimeters and Rf value for the labeling of the distance axis (X axis). When you modify the distance units, the default values for the distance display range will change accordingly.

To display the X axis in millimeters:

- ☐ Select "mm."

To display the X axis in Rf:

- ☐ Select "Rf."

The distance units will be the same for all the lanes of the template. If the units are mm, you can edit the origin and the front of the profile display.

Distance Display Range

The maximum and minimum distances (in units of mm or Rf) currently plotted in the display will be shown in the entry boxes.

To edit the maximum and minimum distance display ranges:

- ☐ Edit the values in the entry boxes.
- ☐ Or, select the up or down arrows to increase or decrease the values.

The distance ranges will apply to all the lanes of the template.

Activity Units

Choose whether to display the activity in units of total counts or CPM.

To display the Y axis units in counts:

- ☐ Select "Counts."

To display the Y axis units in CPM:

- ☐ Select "CPM."

The activity units will be the same for all the lanes of the template.

Activity Display Range

The maximum and minimum activity (in units of counts or CPM) currently plotted in the display will be shown in the entry boxes.

To edit the maximum and minimum activity display ranges:

- ☐ Edit the values in the entry boxes.
- ☐ Or, select the up or down arrows to increase or decrease the values.

Separate values for the activity display range are stored for each lane of the template and for the entire template (all the lanes selected at once). If the "Overlaid Plots" profile display mode has been chosen from the **View** menu (enables you to display more than one lane), the new activity range will apply to all the lanes displayed. If the entire template (all the lanes) is currently selected, the new activity range will be used whenever the whole template is selected.

Apply to All Lanes

To apply the new activity range when any of the lanes of the template is selected (including when the entire template is selected):

- ☐ Select "Apply to All Lanes."

When You Are Done

When you have completed scaling the plot:

- ☐ Select **OK**.

Peak Tags

The **Peak Tags** window (Figure 8-12) can be displayed by selecting **Peak Tags** from the **View** window. This window enables you to select the type, orientation, and font of the tags that appear above the peaks in the profile display. Note that each peak tag is a selection handle: the mouse cursor will change to a pointing hand when placed over the first character of the tag. You can select a region by clicking on this character.

Type of Tag

Choose whether to display the peak number, peak label, or activity above the peaks as the peak tag.

Peak Number

To display the peak number above each peak in the profile display:

- ☐ Select "Peak Number."

Peak tags are always numbered from left to right.

Peak Label

To display a peak label above each peak in the profile display:

- ☐ Select "Peak Label."

Peak labels (or region labels) can be entered and edited in the template bar or in the **Edit Lane** window.

Activity

To display the activity above each peak in the profile display:

- ☐ Select "Activity."

The activity reported in the peak tag will be in units of Counts or CPM; depending on the activity chosen in the **Profile Axes** window.

No Tag

To display no peak tags:

- ☐ Select "None."

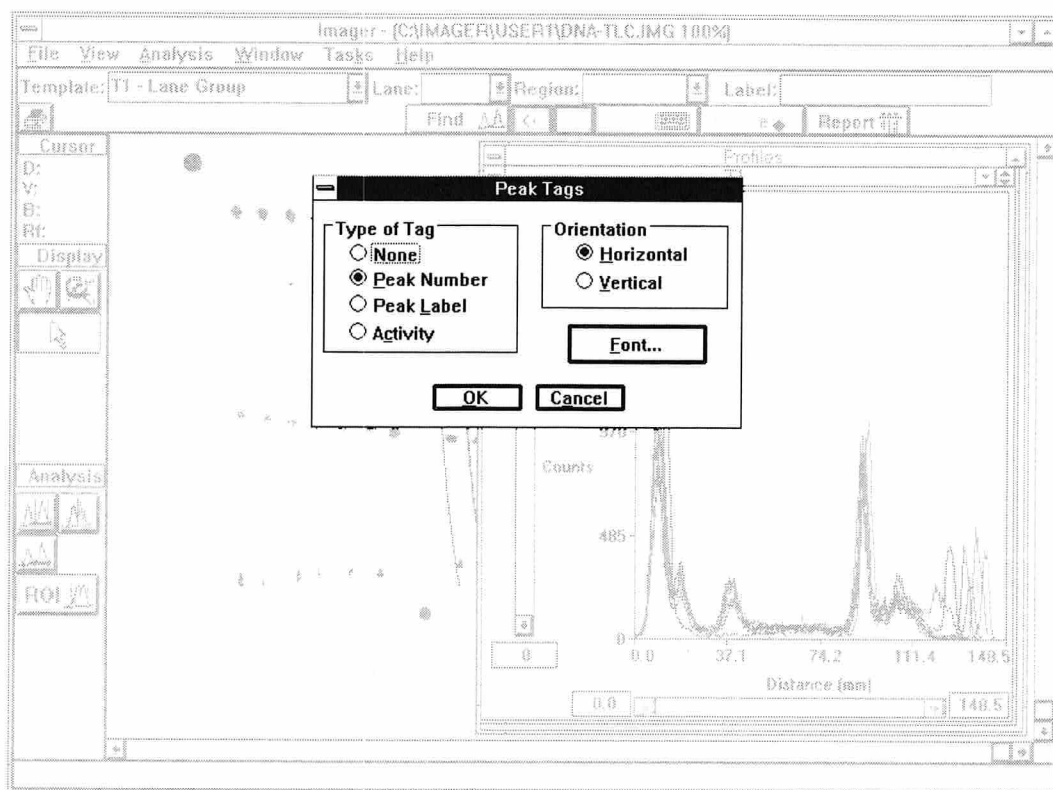


Figure 8-12. Peak Tags Window.

Orientation

Whatever peak tag is chosen, you can determine what display orientation the tags will take.

Horizontal

To display the peak tags in the horizontal (left to right) orientation:

- ☐ Select "Horizontal."

Vertical

To display the peak tags in the vertical (bottom to top) orientation:

- ☐ Select "Vertical."

When You Are Done

When you have made your peak tag selections:

- ☐ Select **OK**.

This will close the **Peak Tags** window and apply the selections to the peaks in the profile display.

The Font Window

Selecting **FONT** from the **Peak Tags** window displays the **Font** window (Figure 8-13). This window enables you to select the font, style, color, and size of the peak tags.

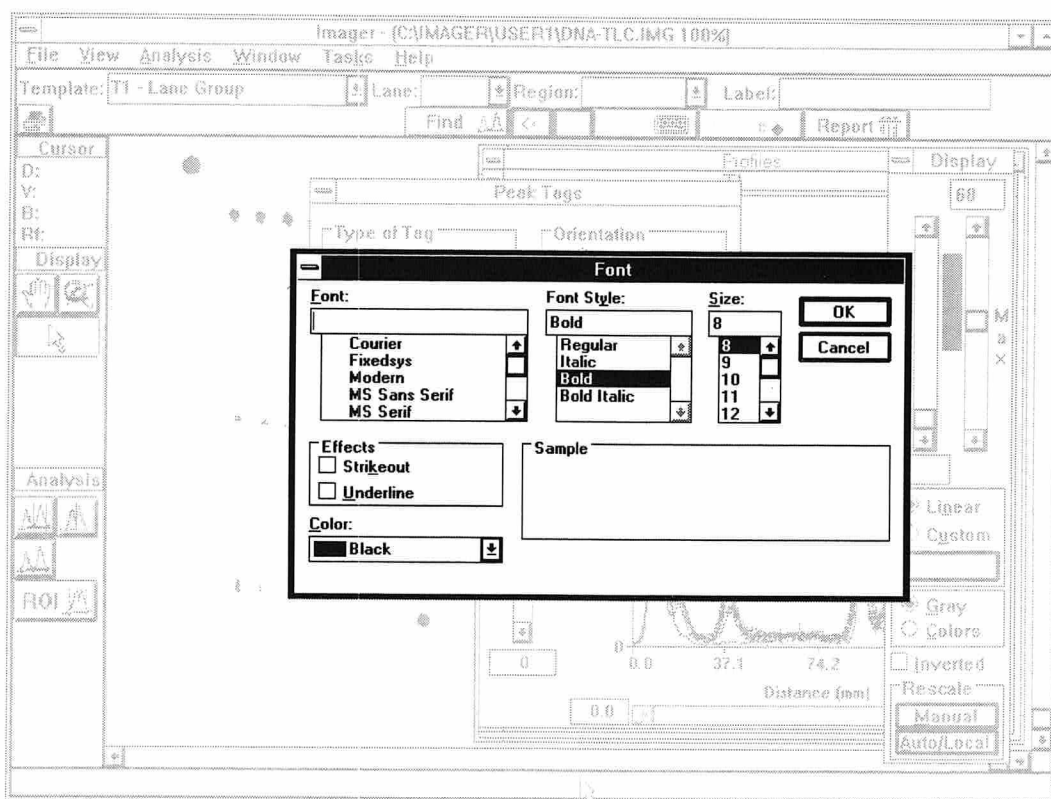


Figure 8-13. Font Window.

Each selection at the **Font** window is described below:

<u>SELECTION</u>	<u>DESCRIPTION OF USE</u>
Font:	Select a font by clicking on the font in the list. An example of the font is displayed in the Sample area of the window.
Font Style:	Select a suitable font style by clicking on the style name in the list. An example of the font style is displayed in the Sample area of the window.
Size:	Select a suitable point size by clicking on the number in the list. An example of the point size is displayed in the Sample area of the window.
Effects: Strikeout	Adds a special effect by putting a line through each peak tag.
Effects: Underline	Adds a special effect by underlining each peak tag.
Color:	Select the drop-down arrow to display a list of colors that can be applied to the peak tags; select a color from the list.
OK	Accepts the font selections and closes the window.
CANCEL	Ignores any changes and closes the window.

Profile Display Mode

You can display only the selected profile at the **Profile** window, or you can display more than one lane profile simultaneously in the **Profile** window.

When you want to display only the selected profile at the **Profile** window (one profile at a time):

- ☐ Select **Profile Display Mode** from the **View** menu.
- ☐ Select **Selection Only**.

When you want to display more than one lane profile simultaneously in the **Profile** window:

- ☐ Select **Profile Display Mode** from the **View** window.
- ☐ Select **Overlaid Plots**.

The **Overlaid Plots** window is displayed (Figure 8–14).

Using the Overlaid Plots Window

The **Overlaid Plots** window enables you to display more than one lane profile simultaneously in the **Profile** window. Profiles of different lanes are displayed in unique colors. The profile of the selected lane is highlighted by being displayed in a distinctive color.

Select One Lane

To select one lane:

- ☐ Click on a lane number.

Select More Than One Lane

To select more than one lane:

- ☐ Hold down the **<Ctrl>** key when clicking on individual lane numbers.

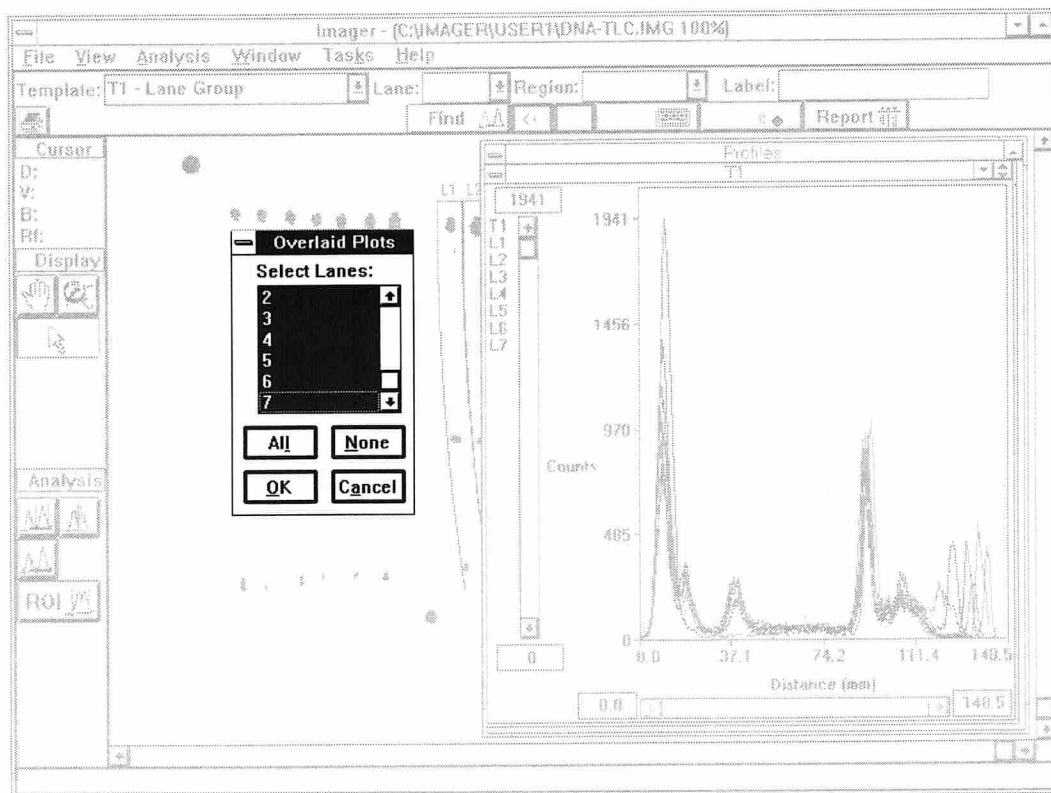


Figure 8-14. Overlaid Plots Window.

Select a Range of Lanes

To select a range of lanes:

- ☐ Click on the first lane number in the range.
- ☐ Select the last lane number in the range while holding down the **<Shift>** key.

Select All the Lanes

To select all of the lanes in the template:

- ☐ Select **ALL**.

Deselect Lanes

To deselect a lane(s):

- ☐ Select **NONE**.

Smooth Profile

The **Smooth Profile** window (Figure 8–15), is displayed by selecting **Smooth Profile** from the **View** menu. This window enables you to specify the amount of smoothing you want applied to the profile display. Smoothing only affects the display. It does not permanently change the original copy of the profile.

You should try each category (light, medium, heavy) to find the amount of smoothing that is right for the profile display.

You can select “None” to return the profile display to its original state.

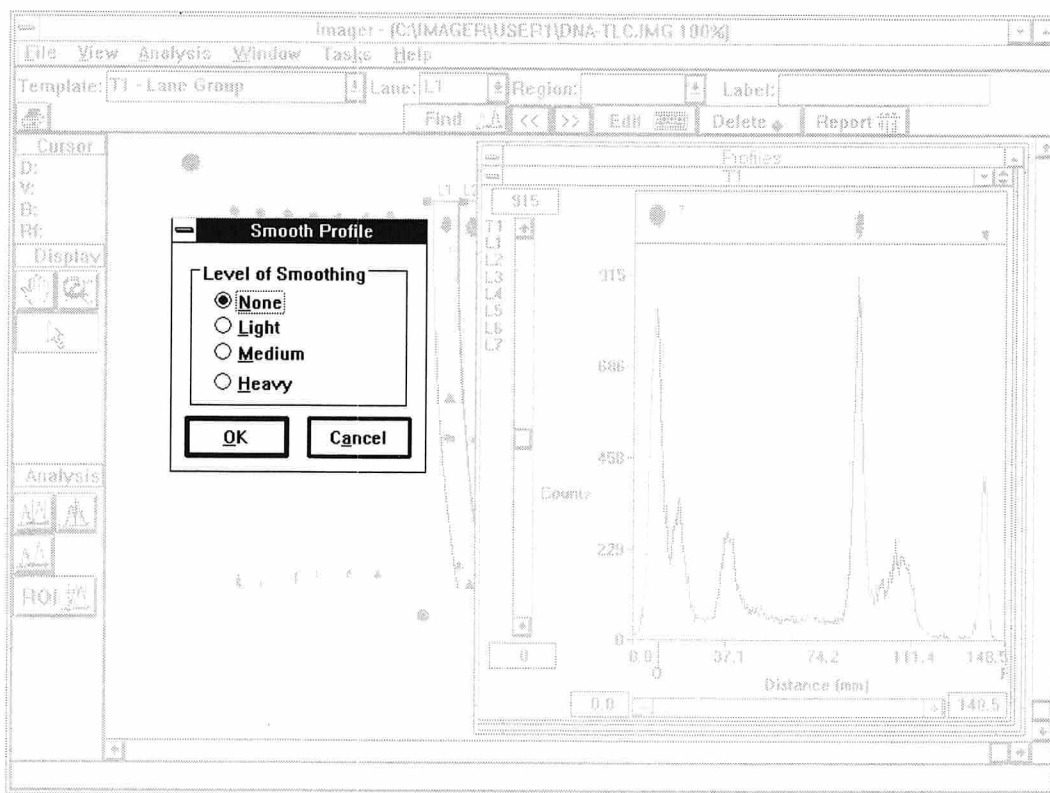


Figure 8–15. Smooth Profile Window.

The selections at the **Smooth Profile** window are described below.

<u>SELECTION</u>	<u>DESCRIPTION OF USE</u>
None	No smoothing is applied. Returns the profile display to its original state if light, medium, or heavy smoothing has been applied.
Light	Applies a minimal amount of smoothing to the profile display.
Medium	Applies a moderate amount of smoothing to the profile display.
Heavy	Applies a significant amount of smoothing to the profile display.
OK	Initiates the smoothing process.
CANCEL	Cancels the selection and closes the window.

Analysis Menu Functions

This section explains:

- How to find peaks and background in the lane or lanes that are currently displayed.
- How to edit the properties of an individual lane and the set of regions in a lane.
- How to generate a report of the lane templates.

This section discusses the functions available from the **Analysis** menu, shown in Figure 8–5. This menu is displayed by selecting **Analysis** from the menu bar of the **InstantImager** window.

For a description of the Next, Previous, and Delete selections see the section *Menus and Selections*, this chapter.

How to Find Peaks and Background

The **Find Peaks & Bkgd** window (Figure 8–16) can be displayed by selecting **Find** from the **Analysis** menu or by selecting the **FIND** button on the template bar. This window enables you to automatically find either the peaks (profile regions), the background, or both in the lanes that are currently displayed in the active **Profile** window.

When a region of interest is defined (using the ROI tool in the toolbox), profile regions and points in the background profile will only be found within the ROI.

You can adjust the parameters that are used to find the peaks and background. You can preview the results by clicking the **PREVIEW** button. When you are satisfied with the results, select **ACCEPT**. You can edit the background profile and the profile regions with the editing tools in the toolbox. (See the section *The Toolbox*, this chapter.)

The find operation will operate on all lanes that are displayed in the plot. Consequently, you can use the **Overlaid Plots** window (selected from the **View** menu) to display more than one lane simultaneously; you can find regions and background in all the lanes that are displayed. Also, when the entire lane template is selected, profile regions and background can be found in all the lanes of the template.

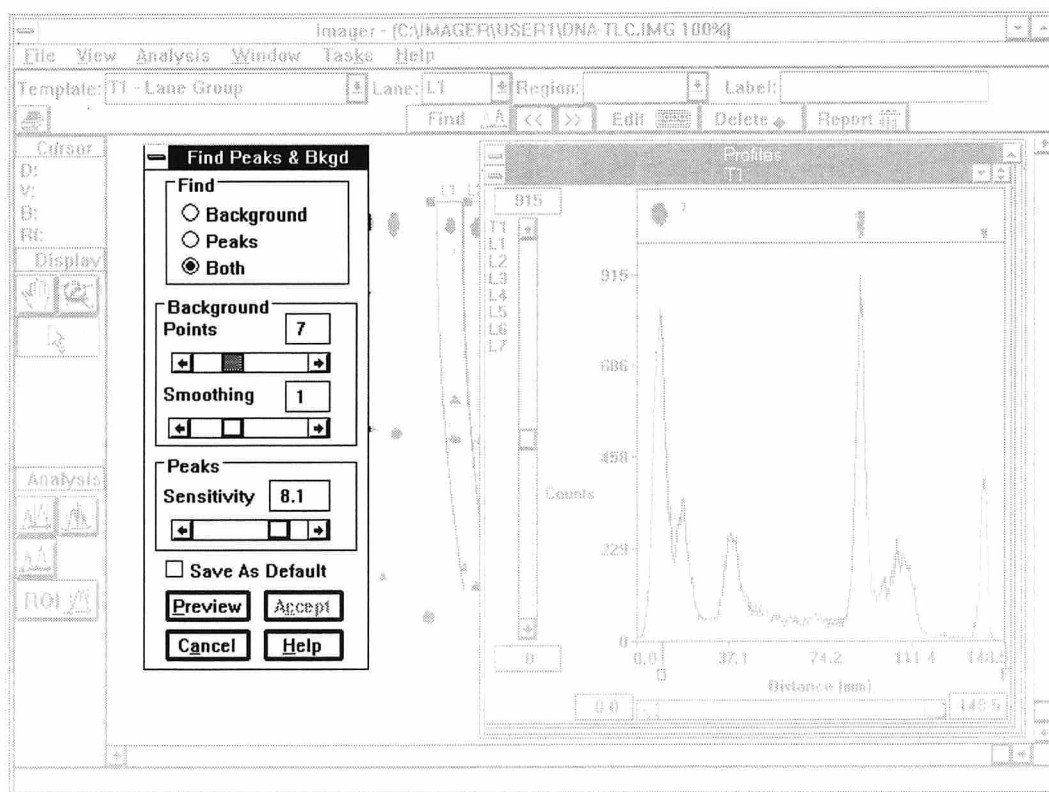


Figure 8-16. Find Peaks & Bkgd Window.

You can find only peaks (profile regions), only the background, or both simultaneously.

It is recommended that you either find the background and peaks simultaneously or find the background before finding the peaks. This is because the limits of integration will usually be more satisfactory when the background profile is defined.

To find background only:

- ☐ Select "Background." (See *Find Background*, below for more information.)

To find peaks only:

- ☐ Select "Peaks" (See *Peak Sensitivity*, below for more information.)

To find background and peak sensitivity simultaneously:

- ☐ Select "Both." (See *Find Background* and *Peak Sensitivity*, below for more information.)

Find Background

In order to find the background, you must specify 1) the number of background points, and 2) the amount of smoothing to be applied.

Once these have been specified, a background profile will be created by finding background points at the valleys of the profiles. The background points at the valleys are connected with straight line segments. The area under the background profile will be subtracted from profile regions when background subtraction is chosen as a report option.

Background Points

The greater the number of points, the more closely the background profile will follow the valleys of a profile. A single background point will result in the subtraction of a constant background from the profile.

The selection of background points ranges from 1 to 20.

To select background points:

- ☐ Use the slide control.
- ☐ Or enter a value in the entry box.

Smoothing

Use a higher level of smoothing on noisy profiles that contain a limited number of counts. This helps to avoid assignment of background points to statistical fluctuations in the base line.

The level of smoothing ranges from 0 to 3.

To select a level of smoothing:

- ☐ Use the slide control.
- ☐ Or, enter a value in the entry box.

Selecting 0 applies no smoothing, while selecting 3 applies heavy smoothing.

Peak Sensitivity

The closer the sensitivity is set to 10, the more peaks will be found. The sensitivity compares large peaks to the statistical fluctuations in the baseline.

The peak sensitivity ranges between 0.1 and 10.

To set the peak sensitivity:

- ☐ Use the slide control.
- ☐ Or enter a value in the entry box.

Preview the Results

Once the parameters have been set, you can find the peaks and/or background:

- ☐ Select **PREVIEW**.

(The **ACCEPT** button will be inactive until the **PREVIEW** button has been chosen.)

The limits of integration of the regions and the background profile will be shown for the selected lane on the profile plot. The regions found in all the lanes displayed in the profile plot will also be drawn on the image in the main **InstantImager** window. If you are not satisfied with the results, change the parameters and choose **PREVIEW** again.

Accept the Results

When you are satisfied with the results:

- ☐ Select **ACCEPT**.

The **Find Peaks & Bkgd** window will close and new profile regions and background profile points that have been found will replace any existing profile regions or background points. If the entire lane template is selected, lane one will be automatically selected when the window closes.

Save As Default

To save the current parameters to your user account:

- ☐ Select "Save As Default."

Cancel the Operation

To cancel the find operation:

- ☐ Select **CANCEL**.

Any profile regions or background points that existed before opening the window will be retained.

Display Online Help

To display online help about the **Find Peaks & Bkgd** window:

- ☐ Select **HELP**.

Editing Profile Regions and Background

All profile regions and the points that make up a background profile can be modified by selecting and editing them. These profile regions can be created automatically at the **Find Peaks & Bkgd** window or created manually with the tools in the toolbox.

Profile Regions

You can select profile regions by clicking just above the peaks with the pointer tool (the first character of the regions tags). Regions will also be listed in the region list in the template bar and can be selected from the list. You can use **Next** or **Previous** in the template bar or the **Analysis** menu to select regions these regions.

Once selected, you can delete, move, or resize a region.

Delete Region

To delete a selected region:

- ☐ Select **Delete** from the template bar.

Move Region

The mouse cursor will change to a move cursor over a selected region, and it can be moved on the profile plot by dragging the pointer tool.

Resize Region

The mouse cursor will change to a resizing cursor when the pointer is moved over the limits of integration of a profile region.

To resize a region:

- ☐ Drag either of the limits of the profile plot.

The limits of integration can also be edited in the **Edit Lane** window. See *Editing Lanes*, this chapter.

You can split profile regions in two with the peak splitting tool in the toolbox. See *Peak Splitting Tool*, this chapter.

Background Profile

You can select the background profile by clicking on it with the pointer tool. The background's points will be indicated by square handles. The background points will also be listed at the end of the region list in the template bar.

You can select, delete, and move a background point on the profile display.

Select Background Point

To select any background point on the profile:

- ☐ Select  from the toolbox.
- ☐ Click on its handle on the plot with the pointer.
- ☐ Or, select the background point from the list in the template bar.

You can also use the **Next** or **Previous** commands in the template bar or in the **Analysis** menu to select background points.

Delete background Point

To delete a selected background point:

- ☐ Select the **Delete** command in the template bar.
- ☐ Or, select the **** key.

Move Background Point

You can move a background point anywhere on the profile plot.

To move a background point:

- ☐ Move the pointer over a selected background point. The mouse cursor will change to a move cursor.
- ☐ Drag the point with the left mouse button.
- ☐ Release the left mouse button when you are satisfied with the new location on the profile plot.

Background points can also be edited in the **Edit Lane** window. See *Editing Lanes*, this chapter.

Background points can be created manually with the background tool selected from the toolbox. See *The Toolbox*, this chapter.

Editing Lanes

The **Edit Lane** window (Figure 8-17) can be displayed by selecting **Edit** from the **Analysis** menu (or the template bar). It can also be displayed by double clicking on the profile plot.

This window can only be opened if you have:

- Created a lane template.
- Automatically or manually found either peaks (profile regions) or background, or both in one or all lanes of the template. This can be done from the **Find Peaks & Bkgd** window (Figure 8-16).
- Selected a lane.

This window cannot be opened if the entire lane template is selected. Using this window, you can edit the properties of the lane including the background points and profile regions. You can also use this window to assign molecular values to the standard regions, or peaks in each lane.

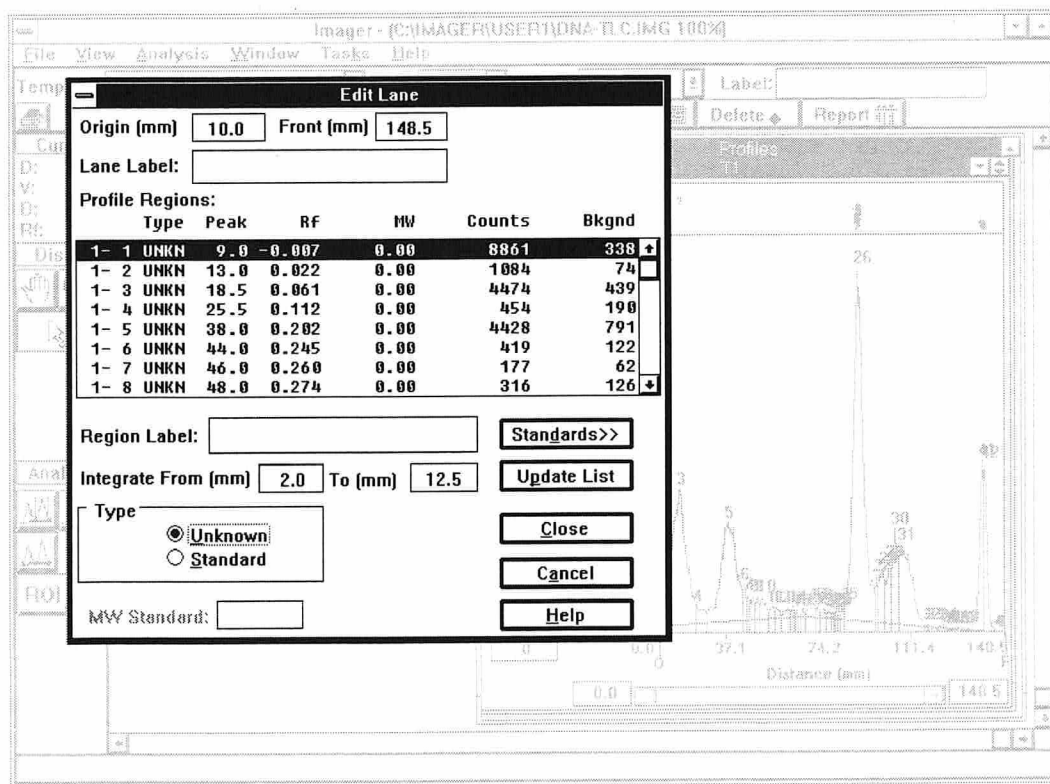


Figure 8-17. Edit Lane Window.

Profile Regions Section

All the profile regions and the background points in the lane will be listed in the box. Each profile region or background point will be identified with the lane number and the region number. Regions and background points will be numbered from left to right.

The following will be listed for each region:

- **Type:** Region type (unknown, standard)
- **Peak:** Peak position (millimeters)
- **Rf:** Rf value.
- **MW:** Molecular weight (when standards are assigned)
- **Counts:** Integrated gross counts in the regions
- **Bkgnd:** Integrated counts under the background profile in the region

Background points will be at the end of the list. The counts at the position of the background point will be listed. Click on a region or background point to select it and edit it in the entry boxes below the list.

Edit the Origin and Front

All lanes are originally assigned the same values for the origin and front that are specified in the **Lane Template** window. However, the origin and front of each lane can be different.

To edit the origin and front of the selected lane (at the “Origin (mm)” and “Front (mm)” entry boxes):

- ☐ Click in the entry box to display the text cursor.
- ☐ Drag over the value in the entry box.
- ☐ Press the **<Backspace>** key to delete the value.
- ☐ Enter the new value.
- ☐ Press **<Enter>** to accept the new value.

The values in the entry boxes are displayed in millimeters.

You can also edit the origin and front on the distance axis of the profile display. Distances are from the origin of the template.

Lane Label

Each lane can also have a label to identify a sample. Edit the label for the selected lane in the entry box. This label can also be edited in the template bar if the lane, rather than the whole template or a region or background point within the lane, is selected.

To edit the lane label ("Lane Label" entry box):

- ☐ Click in the entry box to display the text cursor.
- ☐ Drag over the name in the entry box (if any).
- ☐ Press the **<Backspace>** key to delete the name.
- ☐ Enter the new label name.
- ☐ Press **<Enter>** to accept the new label.

Region Label

Each region can have a label for identification. Edit the label in the entry box for the region that is selected in the list. The label can also be edited in the template bar when the region is selected.

To edit the region label ("Region Label" entry box):

- ☐ Select a region (peak) in the list.
- ☐ Click in the entry box to display the text cursor.
- ☐ Drag over the name in the entry box (if any).
- ☐ Press the **<Backspace>** key to delete the name.
- ☐ Enter the new label name.
- ☐ Press **<Enter>** to accept the new label.

Integration Limits

Edit the limits of integration (in millimeters) in the entry boxes for the region or background point that is selected in the list. Background points will be centered within the limits of integration if a range is specified.

To edit the integration limits (at the “Integrate From (mm)” and “To (mm)” entry boxes):

- ☐ Select a region (peak) in the list.
- ☐ Click in the entry box to display the text cursor.
- ☐ Drag over the value in the entry box.
- ☐ Press the **<Backspace>** key to delete the value.
- ☐ Enter the new value name.
- ☐ Press **<Enter>** to accept the new label.

The values in the entry boxes are displayed in millimeters.

Region Type

You can change the type of each profile region:

- ☐ Select a profile region (peak) in the list.
- ☐ Select a different region type (“Unknown” or “Standard.”

When you select “Standard”:

- ☐ Enter a molecular weight at the “MW Standard” entry box.
- ☐ Select **UPDATE LIST**.

The new molecular weight is applied. The system automatically reorders the list when the value assigned to the molecular weight changes.

Close

Selecting **CLOSE** will close the window and accept any changes.

Cancel

Selecting **CANCEL** will close the window and cancel any changes.

Help

Selecting **HELP** will display online documentation about the window.

Changing Molecular Weights Using the List

You can apply molecular weights to the profile regions listed in the window from a list of predefined weights. Selecting **STANDARDS** displays a list of predefined standards (Figure 8-18). The molecular weights assigned to the lane points can be changes globally or selectively.

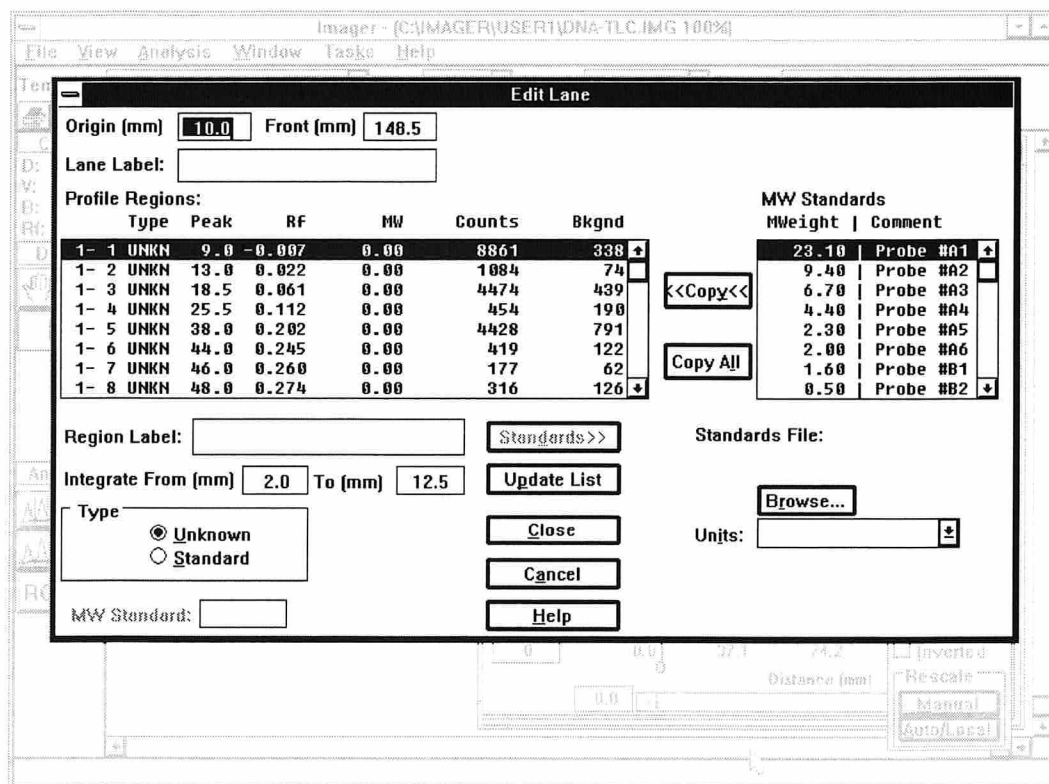


Figure 8-18. List of Standards at Edit Lane Window.

Global Change

To globally apply the weights listed on the right in the window to the ones listed to the left:

- ☐ Select **STANDARDS**.
- ☐ Select **COPY ALL**.

Selecting **COPY ALL** copies the list of molecular weight standards to the profile regions. The first standard in the list is copied to the first region in the list, the second standard in the list is copied to the second region in the list, etc.

Selective Change

To change the weights listed in the window selectively:

- ☐ Select **STANDARDS**.
- ☐ Select a region in the list (on the left).
- ☐ Select a molecular weight standard from the list (on the right).
- ☐ Select **COPY**.

Selecting **COPY** copied the selected molecular weight to the selected region.

The region type will be changed to "Standard" if it is an unknown. No assignment will occur if a background point is selected in the profile region list.

Changing the Default List

Selecting **BROWSE** displays the **Select Molecular Weight Standards** window. This window enables you to load an alternate list of molecular weight standards.

Standards File

The name of the standards file selected from the **Select Molecular Weight Standards** window will be displayed here.

Units

Selecting the drop-down arrow displays a list of molecular weight units. Choose bases, kbases, or Daltons for the units of the molecular weight standards. The selected units will appear in the heading of the reports.

Reporting Lane Profiles

Selecting **Report** from the **Analysis** menu (or the template bar) displays the **Lane Group Report Options (Profile Regions)** window (Figure 8-19).

This window enables you to customize the profile analysis report by checking the boxes next to the items you want to include on the report.

Using this window, you can select as few or as many report options as desired. When you select all of the options, you may need to scroll the ensuing report windows horizontally to view all of the information.

You can also select the lanes to be reported by highlighting the lane numbers in the Lane drop-down menu of the window. If the entire lane template is the selected template object when the window is opened, all the lanes will be highlighted. Select a lane number with the left mouse button, or drag the mouse over a range of numbers to select the range. Select **ALL** to highlight the lanes. Use the **<Ctrl>** key to select any combination.

Once you have defined your report:

- ☐ Select **OK** to close the window, accept the report options, and generate the report. See *Template Report*, below.

 **Note:** *If more than one lane template is displayed on the image, the **Report** window is first displayed (Figure 8-20). This window enables you to select any or all of the templates for reporting. See *The Report Window*, below.*

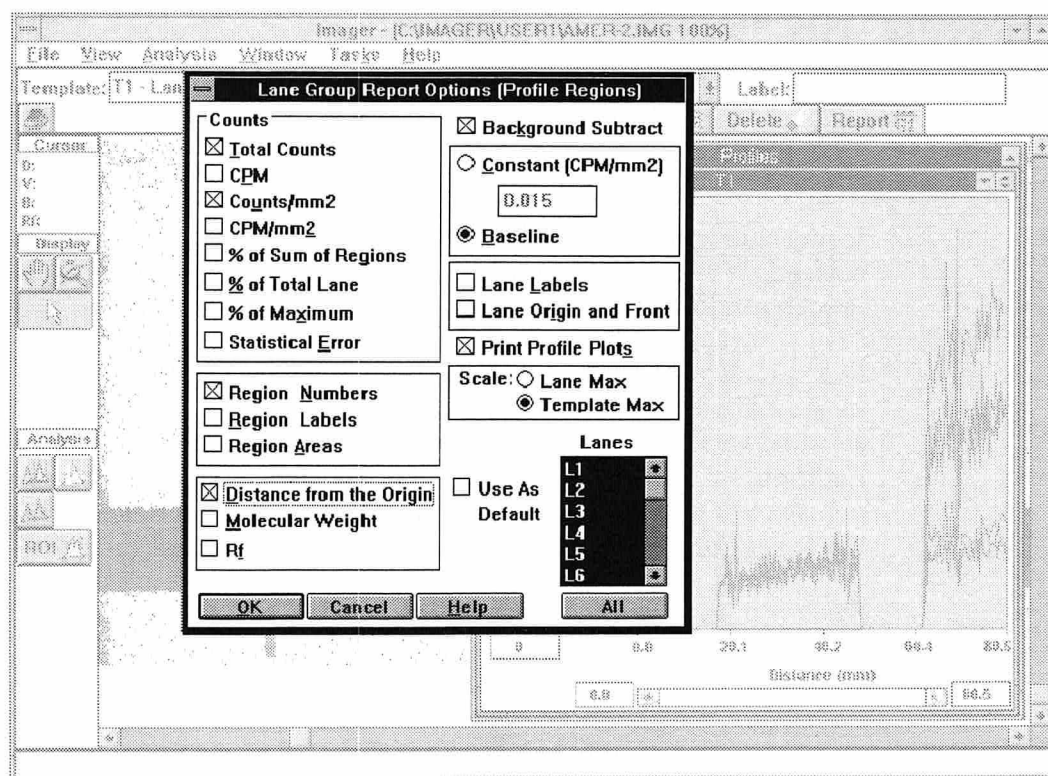


Figure 8-19. Lane Group Report Options (Profile Regions) Window.

Activity in profile regions is reported as the counts under the profile between the limits of integration of the profile regions, inclusive of the lines marking the limits. Choose a method for reporting the activity in the profile regions.

SELECTION

DESCRIPTION OF USE

Total Counts

The total counts in the regions defined in the lanes.

CPM

The counts in the regions divided by the counting time.

Counts/mm²

The total counts in each region divided by the area of the region in mm².

CPM/mm²

The total counts in each region divided by the counting time and the area of the region in mm².

% of Sum of Regions

The counts in each region in a lane reported as a fraction of the sum of the activity in all regions in the lane.

SELECTION

DESCRIPTION OF USE

% of Total Lane

The counts in each region in a lane reported as a fraction of the total counts under the profile of the entire lane.

% of Maximum

Reports the counts in each region in the lane as a fraction of the total counts of the maximum region in the lane.

Statistical Error

The statistical counting error in percent.

Region Numbers

Reports the region numbers as listed in the template bar or in the region tags on the profile plots. Profile regions are numbered from left to right from the template origin line. Region numbers will be reported with the lane number followed by a dash and the region number. Molecular weight standards will have an "S" after the region number, and will be listed after unknown regions, if there are both types in a lane.

Region Labels

Reports the labels (if any) entered to identify the profile regions as listed in the template bar or (optionally) in the region tag on the profile plot.

Region Areas

Reports the 2D area of the profile regions in mm².

Distance from Origin

Reports the distance from the template origin line of the peak of the profile regions. The distance is reported in millimeters.

Molecular Weight

Reports the molecular weights of the unknown regions.

Rf

Reports the Rf value of the unknown regions. The distance of the region peak from the origin is used in the calculation.

SELECTION

DESCRIPTION OF USE

Background Subtract

Select this option and then one of the highlighted background subtracting methods below. With both methods the background value in CPM/mm² will be multiplied by the area of each 1D region. This product will be subtracted from the CPM in the region.

**Background Subtract:
Constant (CPM/mm²)**

Select this option and enter a numerical value in CPM/mm². The amount of background subtraction counts for each 1D region will be determined by multiplying this value by the area (mm²) of the region and the time of the acquisition (minutes).

**Background Subtract:
Baseline**

Select this option to determine the background from a 1D region or regions defined as background within each lane. The background value will be the sum of the CPM in the background regions divided by the total area of the regions. If no background regions exist, the amount of background subtraction will be 0.

Lane Labels

Reports the labels (if any) entered to identify the lanes as listed in the template bar.

Lane Origin & Front

Reports the origin and front for each of the lanes.

SELECTION

DESCRIPTION OF USE

Print Profile Plots

Prints the profile plot as part of the report. The plots will not appear in the report window on the computer screen, but only in the printouts. The overlays showing the profile regions on the background profile will be printed on the image if shown on the screen.

Scale: Lane Max

Prints the range of activity (counts) in each profile plot scaled to the maximum value of each lane. Valid only when "Print Profile Plots" is selected.

Scale: Template Max

Prints the range of activity (counts) in each profile plot scaled to the lane with the greatest maximum value. Valid only when "Print Profile Plots" is selected.

Use As Default

Saves the current report options as the default analysis report options for the new lane templates.

Lanes

Select the lanes to be reported by highlighting the lane numbers in the box. Click on a single lane number with the left mouse button, or drag the mouse over a range of numbers to select the range. Select **ALL** to highlight all the lanes. Use the **<Ctrl>** key along with the left mouse button to select any combination of lanes.

ALL

Selects all of the lanes in the template.

OK

Generates the report.

HELP

Displays online documentation about the window.

CANCEL

Cancels the operation and closes the window.

The Report Window

When more than one lane template is displayed on the screen and you select to generate a report, the names of the all templates included on the current image are displayed in the **Report** window (Figure 8–20).

The currently selected template is highlighted in the list. Highlight one or all the templates for reporting.

The selections at the window are described below.

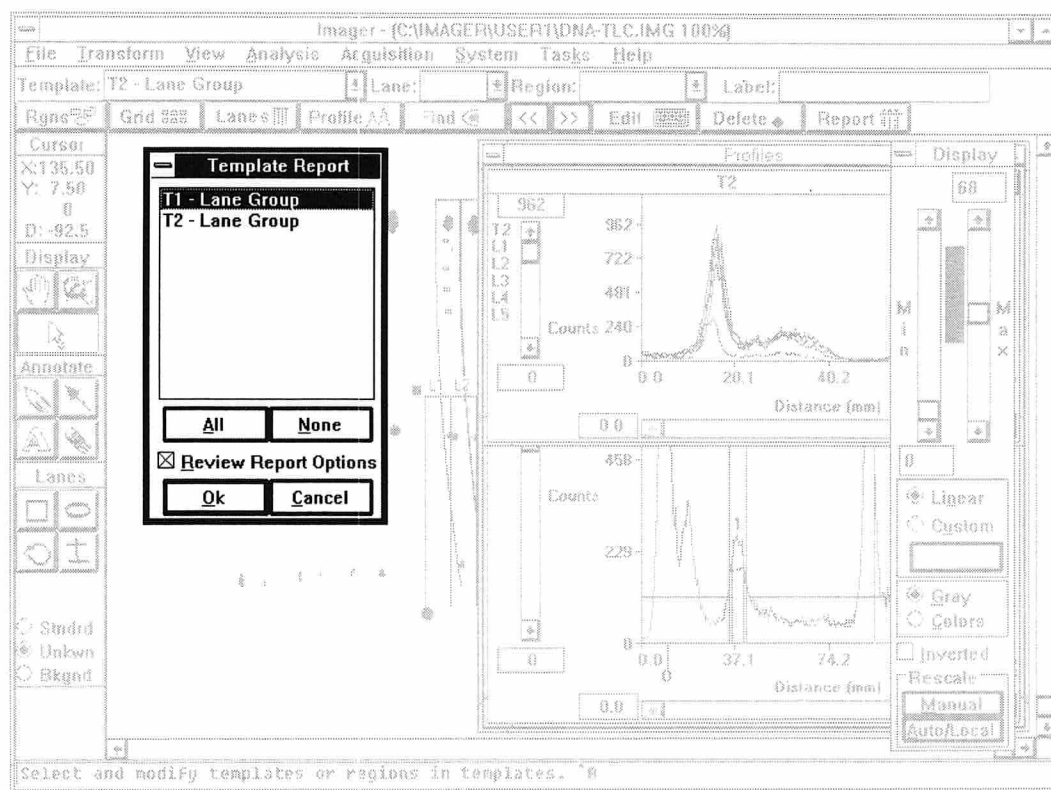


Figure 8–20. Report Window.

<u>SELECTION</u>	<u>DESCRIPTION OF USE</u>
ALL	Selects all the templates listed in the window. Each report is generated successively in the order listed.
NONE	Deselects previously selected templates in the list.
Review Report Options	Displays the Report Options window for all the selected templates before the report is created. Changes can be made to the lists of report options. The default for this option is always whatever was selected last.
OK	Generates the template reports.
CANCEL	Ignores the operations and closes the window.
HELP	Displays online help about the window.

Selecting One Template

To select one template in the list:

- ☐ Click on the template.

The system highlights the template.

Selecting Templates in Sequence

To select several templates in sequence:

- ☐ Click on the first template in the sequential list.

The system highlights the template.

- ☐ Hold down the <Shift> key and select the last template in the group.

The system highlights the entire group.

Selecting Template Out of Sequence

To select a group of templates that are not in sequence in the list:

- ☐ Click on the first template you want to select.

The system highlights the template.

- ☐ Hold down the **<Ctrl>** key and click on each item you want to add to the group.

The system highlights each selected item.

Selecting All Templates

To select all of the templates listed in the window:

- ☐ Select **ALL**.

Or:

- ☐ Click on the first template in the list.
- ☐ Hold down the **<Ctrl>** key and drag the pointer down the entire list.

The system highlights the entire list.

When the Template(s) Have Been Selected

Once you make your selections:

- ☐ Select **OK**.

When you have selected “Review Report Options”, the **Report Options** window is displayed for each selected template. This option enables you to make any last minute changes to the report options before generating a report.

When “Review Report Options” is not selected, each template report is displayed in succession in one window.

Template Report

The template report is shown in Figure 8-21 has a header on the first three lines. Each header provides identifying information about the image.

The first header contains:

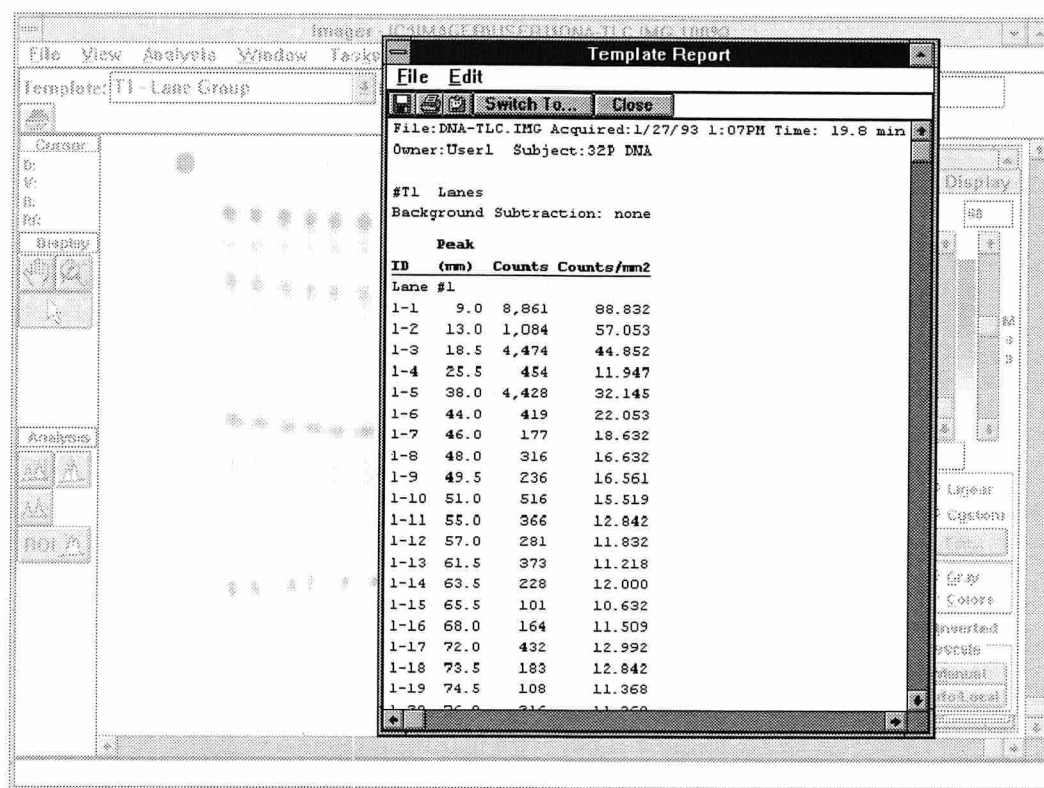
1. **File:** The filename of the image.
2. **Acquired:** The date and time the image was acquired.
3. **Time:** The total elapsed time of the acquisition. The serial number of the instrument's detector may also be displayed.
4. **Owner/Subject:** The initials of the person responsible for the acquisition. The subject of the image can also be displayed.

The second header contains:

5. **Template Number:** The number of the lane template that is being reported.
6. **Background Subtraction:** Indicates the method of background subtraction.

The third header labels the columns for the remaining options selected at the **Lane Group Report Options (Profile Regions)** window:

7. **ID:** The region numbers as listed in the template bar or in the region tags on the profile plot.
8. **Peak (mm):** The distance from the template origin line of the peak of the profile regions. The distance is reported in millimeters.
9. **Counts Total:** The total counts in the regions defined in the specified lane.
10. **Counts/mm²:** The total counts in each region divided by the area of the region in mm².
11. **Lane #1 – Lane #7:** The labels entered to identify the lanes as listed in the template bar.

**Figure 8-21. Template Report.**

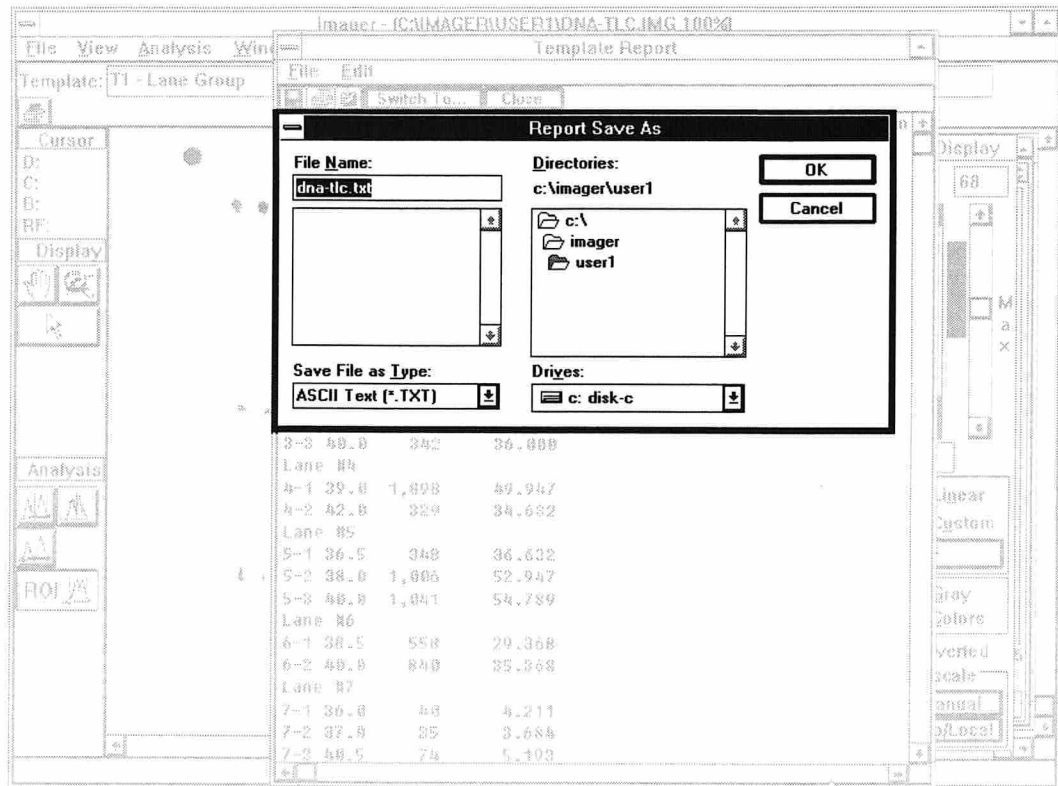


Figure 8-22. Report Save As Window.

Saving the Report

To save the report to a file:

- ☐ Select **Save** from the **File** menu or  from the menu bar.

The **Report Save As** window is displayed (Figure 8-21).

The filename box is highlighted and contains the default filename, followed by the suffix designated in the "Save File as Type" box. You can enter a different name for the report or accept this default name. The owner's directory is also listed.

To change the report filename:

- ☐ Enter the new name at the "Filename" box. Enter an extension of .TXT to save the file in ASCII text format. Enter an extension of .WK1 to save the file in Lotus 1-2-3® format.

Since the report filename is highlighted, simply typing a new name will cause the default name to be removed.

- ☐ Select **OK** to save the file.

You can save future copies of the report to the same filename.

Printing the Report

To print the report:

- ☐ Select **Print** from the **File** menu or  from the menu bar.

The **Print Setup** window is displayed.

Select **OK** to print the report.

Copying the Report

You can copy the entire report to the Window's Clipboard. You can paste the results from the Clipboard into a word processing or spreadsheet program for editing or further processing. To accomplish this, the report is copied to the Clipboard in Lotus 123 (*.WK1) format.

The columns of data are tab delimited, so the results are automatically aligned in the columns in the spreadsheets.

To copy the spreadsheet:

- ☐ Select **Copy to Clipboard** from the **Edit** menu or  from the menu bar.

The entire report is copied to the Clipboard.

Switch To

Selecting **Switch To** displays the **Task List** window. This window allows you to switch to another open application. As a result, you can: 1) copy a report to the Clipboard, 2) switch to an open spreadsheet application, and 3) paste the report into a spreadsheet.